USER'S MANUAL

PPC-7508F

Intel® Celeron M
8.4" Panel PC System

PPC-7508F M1

PPC-7508F Panel PC System
With LCD / Touch screen

OPERATION MANUAL

COPYRIGHT NOTICE

ACKNOWLEDGEMENTS

CE NOTICE

This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

FCC NOTICE

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

You are cautioned that any change or modifications to the equipment not expressly approve by the party responsible for compliance could void your authority to operate such equipment.

CAUTION! Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.
WARNING! Some internal parts of the system may have high electrical voltage. And therefore we strongly recommend that qualified engineers can open and disassemble the system.
The LCD and touch screen are fragile, please handle them with extra care.

* All information contained in this document is subject to change without prior notice.

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APPENDIX A SYSTEM ASSEMBLY

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INTRODUCTION

CHAPTER

1

This chapter gives you the information for PPC-7508F. It also outlines the System specifications.

Section includes:

- About This Manual
- Case Illustration
- System Specifications
- Safety precautions

Experienced users can skip to chapter 2 on page 2-1 for a Quick Start.

1-1. ABOUT THIS MANUAL

Thank you for purchasing our Panel PC. It is an updated system designed to be comparable with the highest performance of IBM AT personal computers. It provides faster processing speed, greater expandability, and can handle more tasks. This manual is designed to assist you on how to make the proper installation to set up the system. It contains five chapters. The user can use this manual for configuration according to the following chapters :

Chapter 1 Introduction

This chapter introduces you to the background of this manual, illustration of the case, and the specifications for this system. The final page of this chapter indicates some safety reminders on how to take care of your system.

Chapter 2 System Configuration

This chapter outlines the Prox-7500 components' locations and their functions. In the end of this chapter, you will learn how to set jumper and how to configure the system for your own needs.

Chapter 3 Software Utilities

This chapter contains helpful information for proper installations of the VGA utility, LAN utility, Sound utility and Flash BIOS update. It also describes the function of the Watchdog Timer.

Chapter 4 Award BIOS Setup

This chapter indicates on how to set up the BIOS configurations.

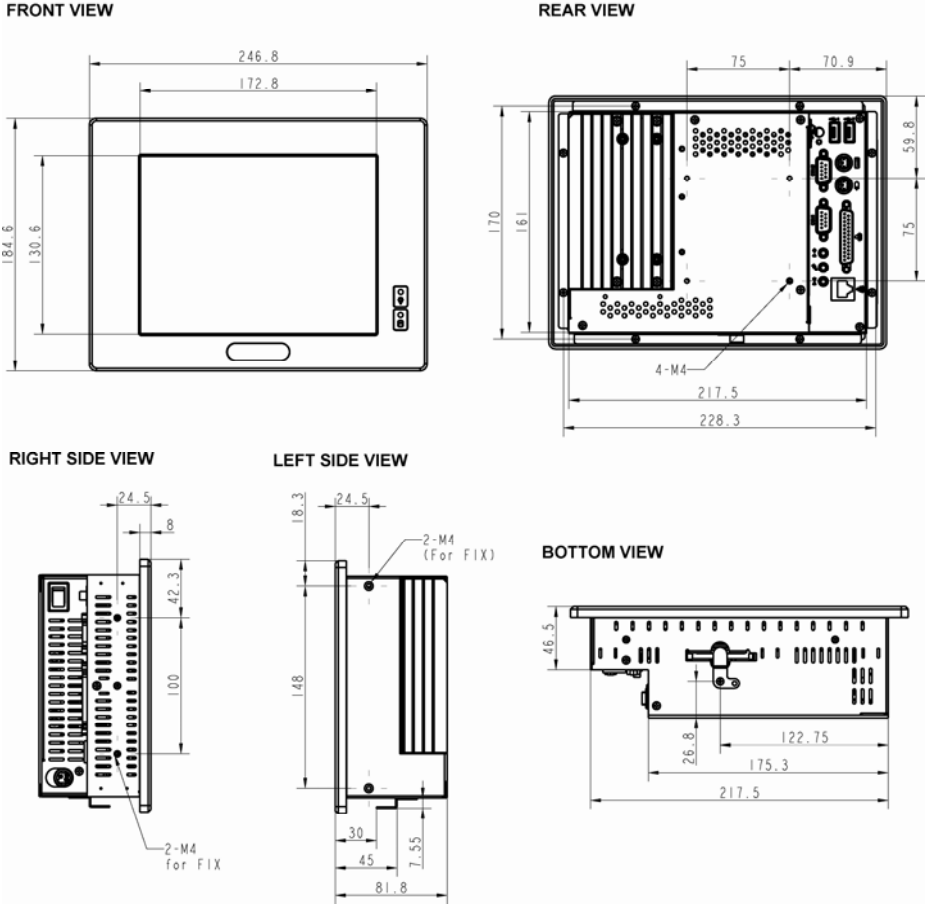
Appendix A System Assembly

This section gives you the exploded diagram for the whole system unit.

Appendix B Technical Summary

This section gives you the information about the Technical maps.

1-2. CASE ILLUSTRATION



1-3. SYSTEM SPECIFICATIONS

MAINBOARD (PROX-7500)

- **CPU TYPE:**
  Intel Celeron-M ULV 1.0GHz on board (non L2 cache)
  Auto detect voltage regulator.

- **CHIPSET:**
  Intel 852GM + ICH4

- **MEMORY :**
  DDR Up to 1GB, 1 x So-DIMM Socket

- **CACHE :**
  Depended on CPU

- **REAL-TIME CLOCK :**
  Embedded in Intel ICH4 South Bridge

- **BIOS :**
  PhoenixAward PnP BIOS
  4Mbytes with VGA BIOS

- **KEYBOARD CONNECTOR :**
  Mini DIN connector.
  Supports PS/2 Keyboard.

- **MOUSE CONNECTOR :**
  Mini DIN connector.
  Supports PS/2 Mouse.

- **BUS SUPPORT :**
  N/A

- **DISPLAY :**
  LCD Panel 8.4": 800*600 SVGA

- **WATCHDOG :**
  Selectable for NMI or Reset function.

- **IDE INTERFACE :**
  1. One IDE port support up to two IDE device
  2. Support Ultra DMA 33/66/100
  3. Compact Flash is connected at secondary IDE bus

- **SERIAL PORT :**
  Four high speed 16550 Compatible UARTs with Send / Receive 16 Byte FIFOs.
  COM1 (D-Sub Connector) for RS-232;
  COM2 (D-Sub Connector) for RS-232/422/485;
  COM1/2 contain 5V or 12V power capability with 9-pin D-sub connector on rear panel.

- **PARALLEL PORT :**
  One 25-pin D-Sub connector on rear panel.
  Support for SPP, ECP, EPP Function.
  Bi-directional parallel port.

- **LAN ADAPTER :**
  Intel Chip.
  RJ-45 jack onboard, Support for 10/100 Base-T Ethernet.
  Support Wake-On-LAN function.

- **USB CONNECTOR :**
  2 USB ports on rear panel. Internal USB ports use 2.0 pitch box-header for connection. All USB ports support USB 2.0 standard.

- **SOUND :**
  ALC202A. AC' 97 Codec.
  Interface: Line_IN, Line_OUT, MIC_IN

- **HARDWARE MONITORING FUNCTION :**
  Monitor CPU Voltage, CPU Temperature.

- **LED INDICATOR :**
  Power LED.
  HDD LED.

LCD PANEL

TFT color LCD is manufactured by using very high brightness technology. Some sequential pixels may not light or may light always, but this is not a failure.

- **LCD TYPE :**
  LCD Panel 8.4": Priority source - AUO (LVDS) or similar model.

- **PIXEL PITCH :**
  According to the supplier's LCD specification.

- **BRIGHTNESS :**
  According to the supplier's LCD specification.

- **CONTRAST RATIO :**
  According to the supplier's LCD specification.

- **POWER CONSUMPTION :**
  According to the supplier's LCD specification.

- **VIEWING ANGLE :**
  According to the supplier's LCD specification.

- **RESPONSE TIME :**
  According to the supplier's LCD specification.

- **COLOR :**
  According to the supplier's LCD specification.

- **LCD MTBF :**

According to the supplier's LCD specification.

- **BACKLIGHT MTBF :**
  According to the supplier's LCD specification.

- **DIMENSION :**
  According to the supplier's LCD specification.

TOUCH SCREEN :

ELO 8.4" 5W Resistive touch screen (E494781).

GENERAL INFORMATION

- **POWER SUPPLY :**
  DC 16V ~ 30V input, ATX 60W output

- **DRIVE BAYS (Optional) :**
  1x Slim HDD
  1x Compact Flash Type-II Slot (IDE, On Board)

- **CONSTRUCTION :**
  Electo Galvanized steel chassis.
  Aluminium front bezel.

- **DIMENSIONS :**
  247mm x 185mm x 82mm (9.73" x 7.3" x 3.23")

- **NET WEIGHT :**
  5kg

1-4. SAFETY AND NOTIFICATION

Following messages are safety reminders on how to protect your systems from damages. And thus, helps you lengthen the life cycle of the system.

1. **Check the Line Voltage**
   a. The operating voltage for the power supply should cover the range of DC 16V~30V, otherwise the system may be damaged.
2. **Environmental Conditions**
   a. Place your PPC-7508F on a sturdy, level surface. Be sure to allow enough room on each side to have easy access.
   b. Avoid extremely hot or cold places to install your PPC.
   c. Avoid exposure to sunlight for a long period of time (for example in a closed car in summer time. Also avoid the system from any heating device.). Or do not use PPC-7508F when it's been left outdoors in a cold winter day.
   d. Bear in mind that the operating ambient temperature is from 0°C up to +40°C.
   e. Avoid moving the system rapidly from a hot place to a cold place or vice versa because condensation may come from inside of the system.
   f. Place PPC-7508F against strong vibrations, which may cause hard disk failure.
   g. Do not place the system too close to any radio active device. Radioactive device may cause interference.
3. **Handling**
   a. Avoid putting heavy objects on top of the system.
   b. Do not turn the system upside down. This may cause the floppy drive and hard drive to mal-function.
   c. Do not remove the diskette from the Floppy drive while the light is still on. If you remove the diskette while the light is on, you may damage the information on the diskette.
4. **Good Care**
   a. When the outside of the case is stained, remove the stain with neutral washing agent with a dry cloth.
   b. Never use strong agents such as benzene and thinner to clean the system.
   c. If heavy stains are present, moisten a cloth with diluted neutral washing agent or with alcohol and then wipe thoroughly with a dry cloth.
   d. If dust has been accumulated on the outside, remove it by using a special made vacuum cleaner for computers.

SYSTEM CONFIGURATION

CHAPTER

2

Helpful information that describes the jumper & connector settings, and component locations.

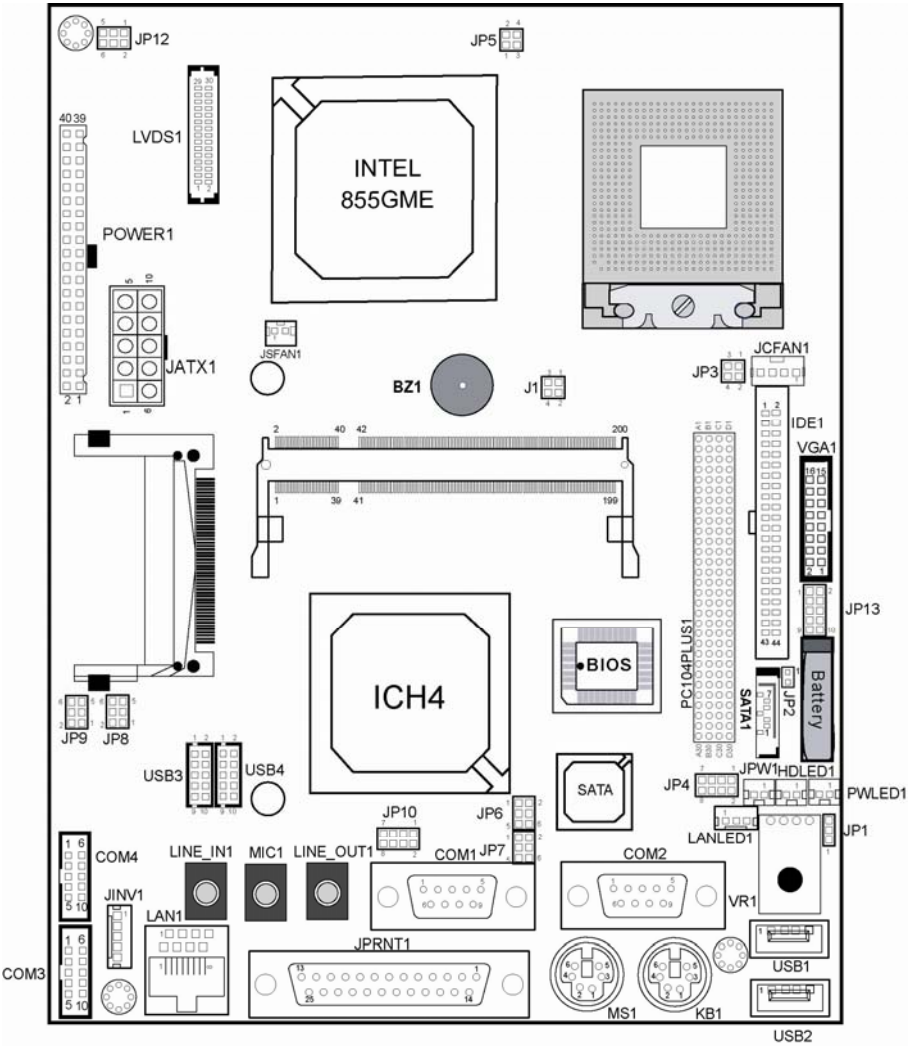
Section includes:

- Jumper & Connector Quick Reference Table
- Component Locations
- Configuration and Jumper settings
- Connector Pin Assignments

2-1. JUMPER & CONNECTOR QUICK REFERENCE TABLE

COM1 RI & Voltage Selection	JP6
COM2 RI & Voltage Selection	JP7
COM3 RI & Voltage Selection	JP9
COM4 RI & Voltage Selection	JP8
RS232/422/485 (COM2) Selection	JP13
Brightness Voltage Selection	JP1
LVDS Voltage Selection	JP12
LVDS Panel Resolution Selection	JP10
CMOS Function Selection	JP2
Watchdog Reset/NMI Selection	JP4
CPU_VCCA Voltage Selection	JP5
CPU Frequency Selection	JP3
VGA Connector	VGA1
LVDS Connector	LVDS1
COM Port Connector	COM1, COM2
	COM3, COM4
Power Connector	JATX1
Hard Disk Drive Connector	IDE1
Printer Connector	JPRNT1
LAN Connector	LAN1
LAN LED Connector	LANLED1
Keyboard Connector	KB1
PS/2 Mouse Connector	MS1
HDD LED Connector	HDLED1
Power Button	JPW1
Power LED Connector	PWLED1
USB Connector	USB1, USB2, USB3, USB4
Memory Installation	DIMM1
Inverter Connector	JINV1
IDE Power Module	POWER1
Compact Flash Connector	CF1
PC104+ Connector	PC104PLUS1
CPU Fan Connector	JCFAN1
System Fan Connector	JSFAN1
Serial ATA Connector	SATA1
Reset & Speaker Connector	J1

2-2. COMPONENT LOCATIONS



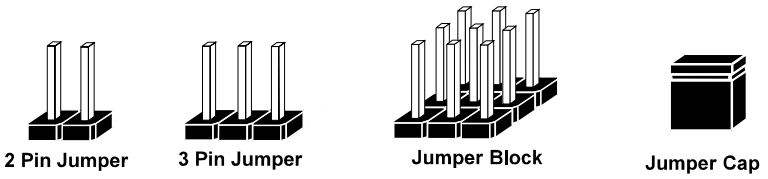
PPC-7508F Connector, Jumper and Component locations

2-3. HOW TO SET THE JUMPERS

You can configure your board by setting the jumpers. Jumper is consists of two or three metal pins with a plastic base mounted on the card, and by using a small plastic "cap", Also known as the jumper cap (with a metal contact inside), you are able to connect the pins. So you can set-up your hardware configuration by "opening" or "closing" pins.

The jumper can be combined into sets that called jumper blocks. When the jumpers are all in the block, you have to put them together to set up the hardware configuration. The figure below shows how this looks like.

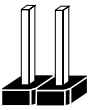
JUMPERS AND CAPS



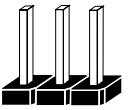
If a jumper has three pins for example, labelled PIN1, PIN2, and PIN3. You can connect PIN1 & PIN2 to create one setting and shorting. You can either connect PIN2 & PIN3 to create another setting. The same jumper diagrams are applied all through this manual. The figure below shows what the manual diagrams look and what they represent.

JUMPER DIAGRAMS

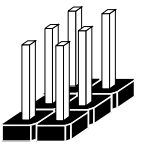
Jumper Cap looks like this



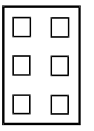
2 pin Jumper looks like this



3 pin Jumper looks like this

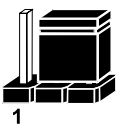


Jumper Block looks like this

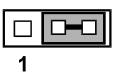


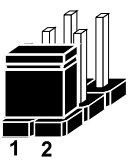
JUMPER SETTINGS

2 pin Jumper closed(enabled)
looks like this

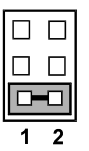


3 pin Jumper
2-3 pin closed(enabled)
looks like this

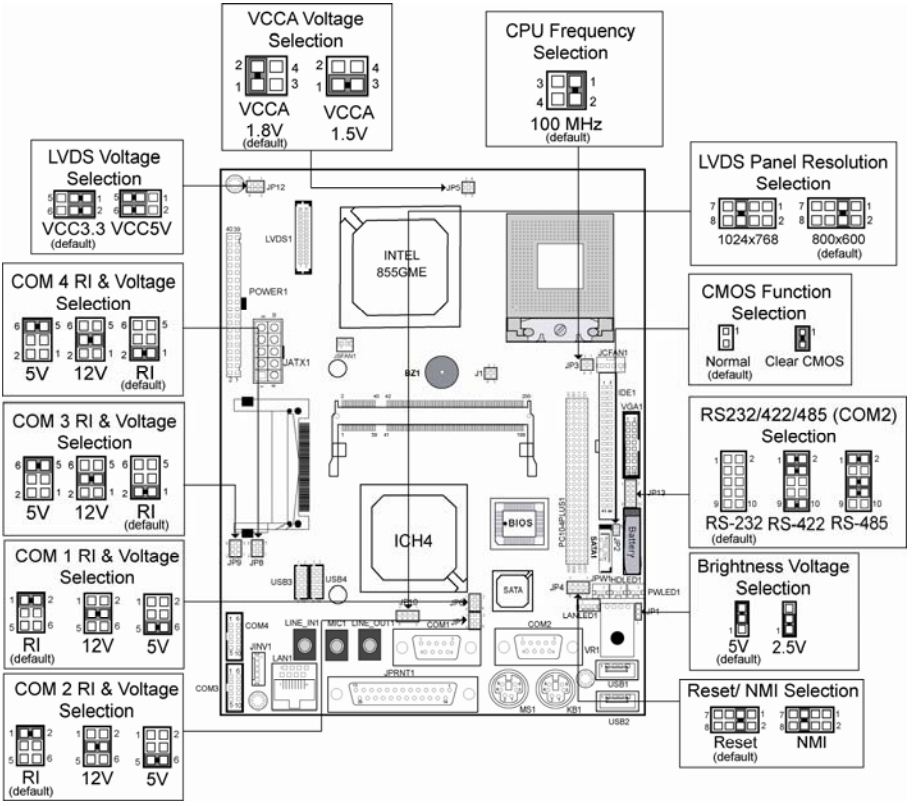




Jumper Block
1-2 pin closed(enabled)
looks like this



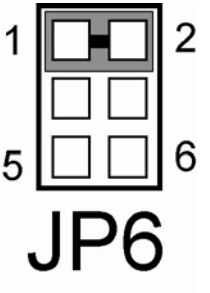
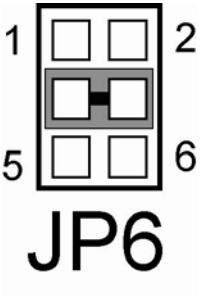
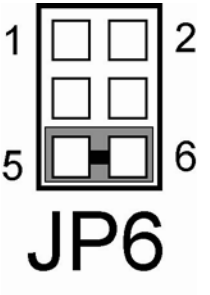
PPC-7508F Jumper Illustration



2-4. COM 1 RI & VOLTAGE SELECTION

JP6 : COM1 RI & Voltage Selection

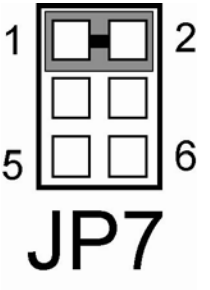
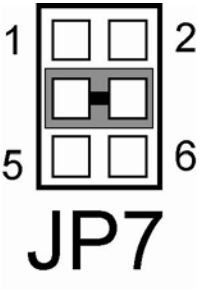
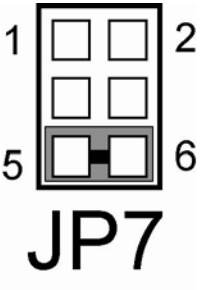
The selections are as follows:

SELECTION		JUMPER SETTING (Pin Closed)	JUMPER ILLUSTRATION
COM1	RI (default)	1-2	
	12V	3-4	
	5V	5-6	

2-5. COM 2 RI & VOLTAGE SELECTION

JP7 : COM2 RI & Voltage Selection

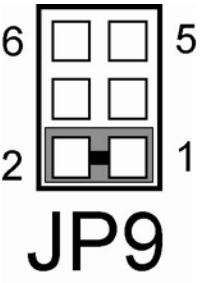
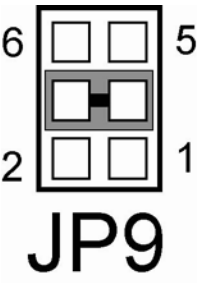
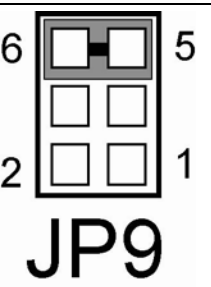
The selections are as follows:

SELECTION		JUMPER SETTING (Pin Closed)	JUMPER ILLUSTRATION
COM2	RI (default)	1-2	
	12V	3-4	
	5V	5-6	

2-6. COM 3 RI & VOLTAGE SELECTION

JP9 : COM3 RI & Voltage Selection

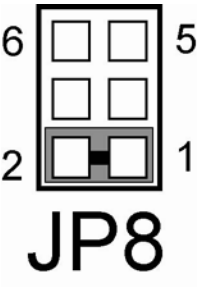
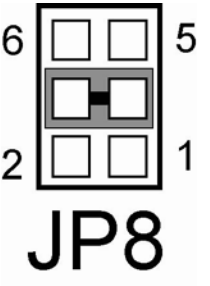
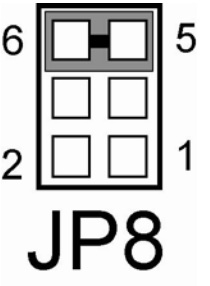
The selections are as follows:

SELECTION		JUMPER SETTING (Pin Closed)	JUMPER ILLUSTRATION
COM3	RI (default)	1-2	
	12V	3-4	
	5V	5-6	

2-7. COM 4 RI & VOLTAGE SELECTION

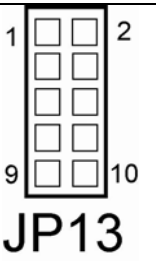
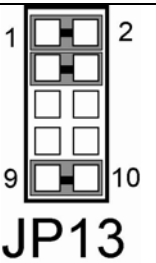
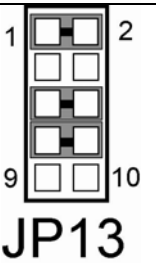
JP8 : COM4 RI & Voltage Selection

The selections are as follows:

SELECTION		JUMPER SETTING (Pin Closed)	JUMPER ILLUSTRATION
COM4	RI (default)	1-2	
	12V	3-4	
	5V	5-6	

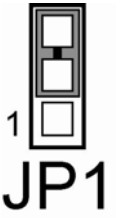
2-8. RS232/422/485 (COM2) SELECTION

JP13 : RS-232/422/485 (COM2) Selection
COM2 is selectable for RS-232, 422, 485 function.
The jumper settings are as follows :

COM 2 FUNCTION	JUMPER SETTING (pin closed)	JUMPER ILLUSTRATION
RS-232 (default)	Open	
RS-422	1-2, 3-4, 9-10	
RS-485	1-2, 5-6, 7-8	

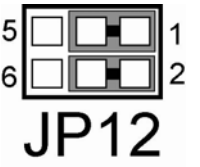
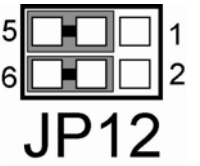
2-9. BRIGHTNESS VOLTAGE SELECTION

JP1: Brightness Voltage Selection
The selections are as follows :

SELECTION	JUMPER SETTING (Pin Closed)	JUMPER ILLUSTRATION
5V (default)	2-3	
2.5V	1-2	

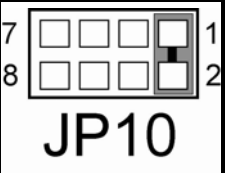
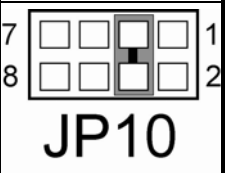
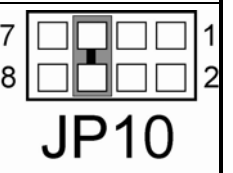
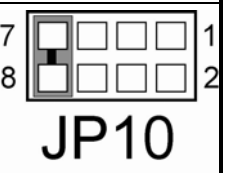
2-10. LVDS VOLTAGE SELECTION

JP12: LVDS Voltage Selection
The selections are as follows :

SELECTION	JUMPER SETTING (Pin Closed)	JUMPER ILLUSTRATION
VCC 3.3	1-3, 2-4	
VCC 5	3-5, 4-6	

2-11. LVDS PANEL RESOLUTION SELECTION

JP10 : LVDS Panel Resolution Selection.
The selections are as follows:

FUNCTION	JUMPER SETTING (pin closed)	JUMPER ILLUSTRATION
640 x 480	1-2	
800 x 600 (10.4") (default)	3-4	
1024 x 768 (15")	5-6	
1280 x 1024	7-8	

2-12. CMOS FUNCTION SELECTION

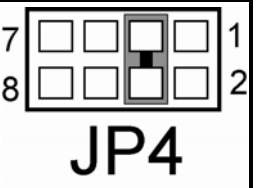
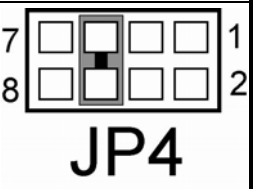
JP2: CMOS Function Selection
The selections are as follows:

FUNCTION	JUMPER SETTING (pin closed)	JUMPER ILLUSTRATION
NORMAL (default)	Open	
CLEAR CMOS	1-2	

📖 To clear CMOS data, user must power-off the computer and set the jumper to "Clear CMOS" as illustrated above. After five to six seconds, set the jumper back to "Normal" and power-on the computer.

2-13. RESET / NMI SELECTION

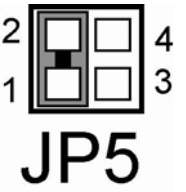
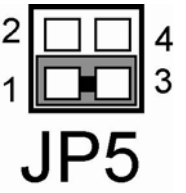
JP4 : Reset/NMI/Clear Watchdog Selection
The selections are as follows:

FUNCTION	JUMPER SETTING	JUMPER ILLUSTRATION
Reset (default)	3-4	
NMI	5-6	

- User may select to use the Reset or NMI watchdog. NMI, also known as Non-Maskable Interrupt, is used for serious conditions that demand the processor's immediate attention, it cannot be ignored by the system unless it is shut off specifically. To clear NMI command, user should short the "Clear Watchdog" pin via push button.

2-14. CPU_VCCA VOLTAGE SELECTION

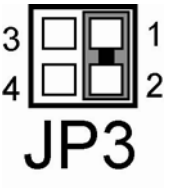
JP5: CPU_VCCA Voltage Selection
The selections are as follows :

SELECTION	JUMPER SETTING (Pin Closed)	JUMPER ILLUSTRATION
VCCA 1.8V	1-2	
VCCA 1.5V	1-3	

*** Manufacturing Default: VCCA 1.8V.

2-15. CPU FREQUENCY SELECTION

JP3: CPU Frequency Selection
The selections are as follows :

SELECTION	JUMPER SETTING (Pin Closed)	JUMPER ILLUSTRATION
100 MHz	1-2	

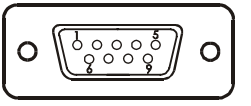
*** Manufacturing Default: 100MHz.

2-16. COM PORT CONNECTOR

There are four COM ports enhanced in this board namely: COM1, COM2, COM3 and COM4. COM1, COM3 and COM4 are fixed for RS-232, while COM2 is selectable for RS-232/422/485.

COM1 : COM1 Connector
The COM1 Connector assignments are as follows :

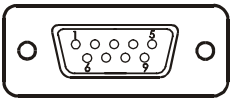
PIN	ASSIGNMENT
1	DCD1
2	RX1
3	TX1
4	DTR1
5	GND
6	DSR1
7	RTS1
8	CTS1
9	RI1



COM1

COM2 : COM2 Connector
The COM2 Connector assignments are as follows :

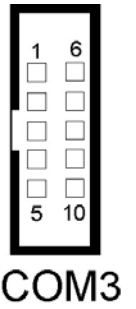
PIN	ASSIGNMENT		
	RS-232	RS-422	RS-485
1	DCD2	TX-	TX-
2	RX2	TX+	TX+
3	TX2	RX+	RX+
4	DTR2	RX-	RX-
5	GND	GND	GND
6	DSR2	RTS-	NC
7	RTS2	RTS+	NC
8	CTS2	CTS+	NC
9	RI2	CTS-	NC



COM2

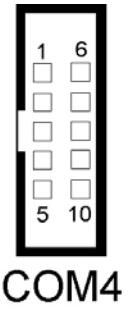
COM3 : COM3 Connector
The pin assignments are as follows :

PIN	ASSIGNMENT
1	DCD3
2	RX3
3	TX3
4	DTR3
5	GND
6	DSR3
7	RTS3
8	CTS3
9	RI3
10	NC



COM4 : COM4 Connector
The pin assignments are as follows :

PIN	ASSIGNMENT
1	DCD4
2	RX4
3	TX4
4	DTR4
5	GND
6	DSR4
7	RTS4
8	CTS4
9	RI4
10	NC

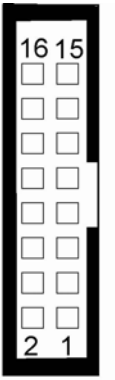


🕮 All COM port's pin 9 is selectable for RI, +5V or +12V. For more information, please refer to our "2-5 COM RI and Voltage Selection".

2-17. VGA CONNECTOR

VGA1 : VGA Connector
The pin assignments are as follows:

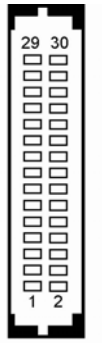
PIN	ASSIGNMENT
1	RED
2	GREEN
3	BLUE
4	NC
5	GND
6	GND
7	GND
8	GND
9	VCC
10	GND
11	NC
12	VGA DDC DATA
13	HSYNC
14	VSYNC
15	VGA DDC CLK
16	NC



2-18. LVDS CONNECTOR

LVDS1 : LVDS Connector
The pin assignments are as follows :

PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	LVDS_VCC	2	GND
3	ZCN	4	ZCP
5	GND	6	Z2N
7	Z2P	8	GND
9	Z1N	10	Z1P
11	Z3P	12	Z3N
13	Z0P	14	Z0N
15	GND	16	YCP
17	YCN	18	GND
19	Y2P	20	Y2N
21	GND	22	Y1P
23	Y1N	24	GND
25	Y0P	26	Y0N
27	Y3P	28	Y3N
29	LVDS_VCC	30	LVDS_VCC

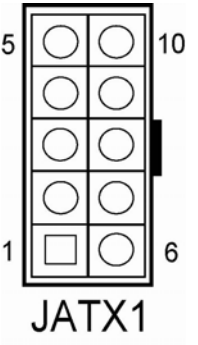


LVDS1

2-19. POWER CONNECTOR

JATX1: Power Connector
The pin assignments are as follows :

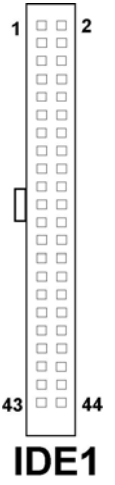
PIN	ASSIGNMENT
1	5V
2	5V
3	GND
4	GND
5	12V
6	5VSB
7	5V
8	GND
9	PS_ON
10	-12V



2-20. HARD DISK DRIVE CONNECTOR

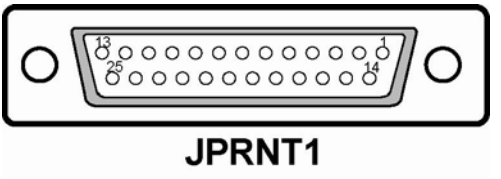
IDE1 : Hard Disk Drive Connector
The pin assignments are as follows:

PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	IDERSTJ	2	GND
3	PDD7	4	PDD8
5	PDD6	6	PDD9
7	PDD5	8	PDD10
9	PDD4	10	PDD11
11	PDD3	12	PDD12
13	PDD2	14	PDD13
15	PDD1	16	PDD14
17	PDD0	18	PDD15
19	GND	20	NC
21	DDREQA	22	GND
23	DIOWAJ	24	GND
25	DIORAJ	26	GND
27	HDRDYA	28	PULL LOW
29	DDACKAJ	30	GND
31	IDE_IRQ14	32	NC
33	PDA1	34	PD_80P
35	PDA0	36	PDA2
37	PDCSJ1	38	PDCSJ3
39	HDLEDJ1	40	GND
41	5V	42	5V
43	GND	44	NC



2-21. PRINTER CONNECTOR

JPRNT1 : Printer Connector
As to link the Printer to the card, you need a cable to connect both DB25 connector and parallel port.
The pin assignments are as follows :

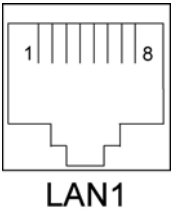


PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	STROBE	14	AFDJ
2	PPD0	15	ERRORJ
3	PPD1	16	INITJ
4	PPD2	17	SLINJ
5	PPD3	18	GND
6	PPD4	19	GND
7	PPD5	20	GND
8	PPD6	21	GND
9	PPD7	22	GND
10	ACKJ	23	GND
11	BUSY	24	GND
12	PE	25	GND
13	SLCT		

2-22. LAN CONNECTOR

LAN1: LAN Connector.
The pin assignment is as follows :

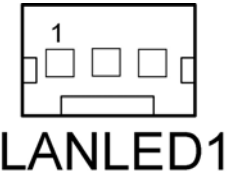
PIN	ASSIGNMENT
1	MDI_0P
2	MDI_0N
3	MDI_1P
4	MDI_2P
5	MDI_2N
6	MDI_1N
7	MDI_3P
8	MDI_3N



2-23. LAN LED CONNECTOR

LANLED1 : LAN LED Connector
The pin assignment is as follows :

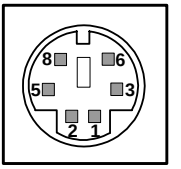
PIN	ASSIGNMENT
1	LED100
2	CONTROL
3	LED1000



2-24. KEYBOARD CONNECTOR

KB1 : PC/AT Keyboard Connector
The pin assignments are as follows :

PIN	ASSIGNMENT
1	KB DATA
2	NC
3	GND
5	5VSB
6	KB CLK
8	NC

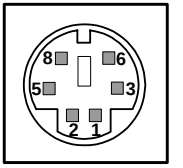


KB1

2-25. PS/2 MOUSE CONNECTOR

MS1 : PS/2 Mouse Connector
The pin assignments are as follows :

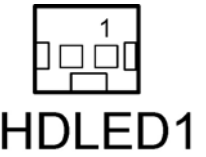
PIN	ASSIGNMENT
1	MS DATA
2	NC
3	GND
5	5VSB
6	MS CLK
8	NC



MS1

2-26. HDD LED CONNECTOR

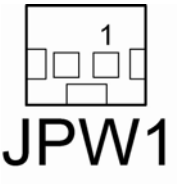
HDLED1 : HDD LED Connector
The pin assignment is as follows :



PIN	ASSIGNMENT
1	HD_LED+
2	HD_LED-

2-27. POWER BUTTON

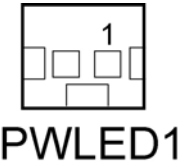
JPW1 : Power Button
The pin assignments are as follows:



PIN	ASSIGNMENT
1	PWR_BN1
2	PWR_BN2

2-28. POWER LED CONNECTOR

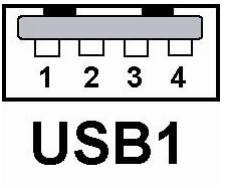
PWLED1: Power LED Connector.
The pin assignments are as follows :



PIN	ASSIGNMENT
1	PW_LED+
2	GND

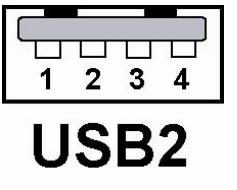
2-29. UNIVERSAL SERIAL BUS CONNECTOR

USB1: Universal Serial Bus Connector.
The pin assignments are as follows :



PIN	ASSIGNMENT
1	5V_USB0
2	USB0N
3	USB0P
4	GND

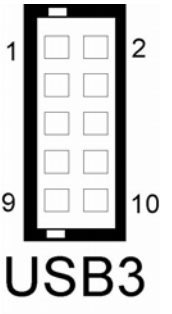
USB2: Universal Serial Bus Connector.
The pin assignments are as follows :



PIN	ASSIGNMENT
1	5V_USB1
2	USB1N
3	USB1P
4	GND

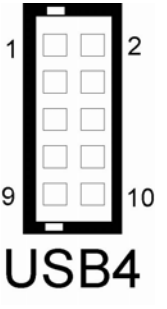
USB3 : Universal Serial Bus Connector.
The pin assignments are as follows :

PIN	ASSIGNMENT
1	5V_USB2
3	USB2N
5	USB2P
7	GND
9	GND
2	5V_USB3
4	USB3N
6	USB3P
8	GND
10	GND



USB4 : Universal Serial Bus Connector.
The pin assignments are as follows :

PIN	ASSIGNMENT
1	5V_USB4
3	USB4N
5	USB4P
7	GND
9	GND
2	5V_USB5
4	USB5N
6	USB5P
8	GND
10	GND



2-30. MEMORY INSTALLATION

This system is enhanced with 1 DDR DRAM banks, which support up to 1G.

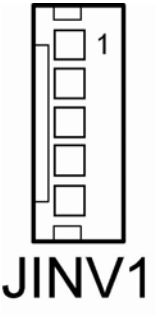
DRAM BANK CONFIGURATION

DIMM 1	TOTAL MEMORY
128M	128MB
256M	256MB
512M	512MB
1G	1G

2-31. INVERTER CONNECTOR

JINV1: Inverter Connector.
The pin assignments are as follows :

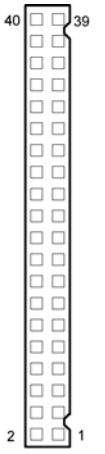
PIN	ASSIGNMENT
1	VCC12
2	GND
3	BRCTR
4	NC
5	ENVEE (Inverter backlight On/Off control signal)



2-32. POWER MODULE

POWER1 : Power Module.
The pin assignments are as follows :

PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	+5V	2	5VSB
3	+5V	4	5VSB
5	+5V	6	5VSB
7	+5V	8	+5V
9	+5V	10	+5V
11	+5V	12	+5V
13	GND	14	GND
15	GND	16	GND
17	GND	18	GND
19	PS-ON	20	GND
21	NC	22	GND
23	NC	24	GND
25	-12V	26	+12V
27	-12V	28	+12V
29	-12V	30	+12V
31	NC	32	NC
33	NC	34	NC
35	NC	36	NC
37	NC	38	NC
39	NC	40	NC



POWER1

2-33. COMPACT FLASH CONNECTOR

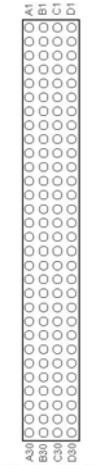
CF1 : Compact Flash Connector.
The pin assignments are as follows :

PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	GND	26	GND
2	D03	27	D11
3	D04	28	D12
4	D05	29	D13
5	D06	30	D14
6	D07	31	D15
7	CSJ1	32	CSJ3
8	GND	33	GND
9	GND	34	SDIORDJ
10	GND	35	SDIOWRJ
11	GND	36	+5V
12	GND	37	IRQ15
13	+5V	38	+5V
14	GND	39	-CSEL
15	GND	40	NC
16	GND	41	RESETJ
17	GND	42	IORDY
18	A02	43	REQ
19	A01	44	ACKJ
20	A00	45	CF_LEDJ
21	D00	46	-PDIAG
22	D01	47	D08
23	D02	48	D09
24	NC	49	D10
25	GND	50	GND

2-34. PCI-104 CONNECTOR

PC104PLUS1 : PCI-104 Connector.
The pin assignments are as follows :

A		B		C		D	
PIN	ASSIGNMENT	PIN	ASSIGNMENT	PIN	ASSIGNMENT	PIN	ASSIGNMENT
A1	GND	B1	SERIR	C1	+5V	D1	AD00
A2	NC	B2	AD02	C2	AD01	D2	+5V
A3	AD05	B3	GND	C3	AD04	D3	AD03
A4	CBEJ0	B4	AD07	C4	GND	D4	AD06
A5	GND	B5	AD09	C5	AD08	D5	GND
A6	AD11	B6	NC	C6	AD10	D6	M66EN
A7	AD14	B7	AD13	C7	GND	D7	AD12
A8	+3.3V	B8	CBEJ1	C8	AD15	D8	+3.3V
A9	SERRJ	B9	GND	C9	NC	D9	PAR
A10	GND	B10	PERRJ	C10	+3.3V	D10	SDONE
A11	STOPJ	B11	+3.3V	C11	LOCKJ	D11	GND
A12	+3.3V	B12	TRDYJ	C12	GND	D12	DEVSELJ
A13	FRAMEJ	B13	GND	C13	IRDYJ	D13	+3.3V
A14	GND	B14	AD16	C14	+3.3V	D14	CBEJ2
A15	AD18	B15	+3.3V	C15	AD17	D15	GND
A16	AD21	B16	AD20	C16	GND	D16	AD19
A17	+3.3V	B17	AD23	C17	AD22	D17	+3.3V
A18	IDSEL0	B18	GND	C18	IDSEL1	D18	IDSEL2
A19	AD24	B19	CBEJ3	C19	NC	D19	IDSEL3
A20	GND	B20	AD26	C20	AD25	D20	GND
A21	AD29	B21	+5V	C21	AD28	D21	AD27
A22	+5V	B22	AD30	C22	GND	D22	AD31
A23	REQJ0	B23	GND	C23	REQJ1	D23	NC
A24	GND	B24	REQJ2	C24	+5V	D24	GNTJ0
A25	GNTJ1	B25	NC	C25	GNTJ2	D25	GND
A26	+5V	B26	PCLK1	C26	GND	D26	PCLK2
A27	PCLK3	B27	+5V	C27	PCLK4	D27	GND
A28	GND	B28	INTDJ	C28	+5V	D28	RSTJ
A29	+12V	B29	INTAJ	C29	INTBJ	D29	INTCJ
A30	-12V	B30	NC	C30	NC	D30	GND

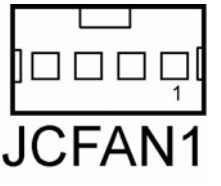


PC104PLUS1

2-35. CPU FAN CONNECTOR

JCFAN1 : CPU Fan Connector

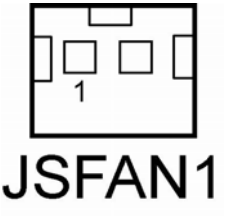
PIN	ASSIGNMENT
1	GROUND
2	FAN_VCC12
3	FAN_SPEED OUT
4	FAN_PWM



2-36. SYSTEM FAN CONNECTOR

JSFAN1 : System FAN Connector

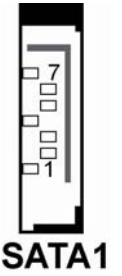
PIN	ASSIGNMENT
1	VCC12
2	GND



2-37. SERIAL ATA CONNECTOR

SATA1 : Serial ATA Connector

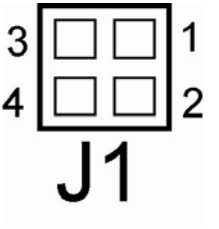
PIN	ASSIGNMENT
1	GND
2	SATAHDR_TXP0
3	SATAHDR_TXN0
4	GND
5	SATAHDR_RXN0
6	SATAHDR_RXP0
7	GND



2-38. RESET & SPEAKER CONNECTOR

J1 : Reset and Speaker Connector

PIN	ASSIGNMENT
1	SPK_VCC
2	SPK
3	RST_SW
4	GND



SOFTWARE UTILITIES

CHAPTER

3

This chapter comprises the detailed information of VGA driver, LAN driver, and sound driver, Intel Chipset Software Installation Utility, touch screen driver, USB 2.0 driver and Flash BIOS update. It also describes how to install the watchdog timer configuration.

Section includes:

- Introduction
- VGA Driver Utility
- Flash BIOS Update
- LAN Driver Utility
- Sound Driver Utility
- Intel® Chipset Software Installation Utility
- USB2.0 Chipset Software Installation Utility
- Touch Screen Driver Utility
- Watchdog Timer Configuration

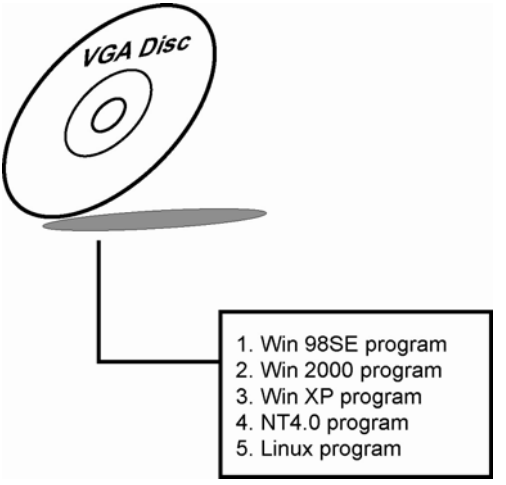
3-1. INTRODUCTION

Enclosed with our PPC-7508F package is our driver utility, which may comes in a form of a CD ROM disc or floppy diskettes. For CD ROM disc user, you will only need some of the files contained in the CD ROM disc, please kindly refer to the following chart:

Filename (Assume that CD ROM drive is D:)	**Purpose**
D:\Driver\VGA	Intel 845GM For VGA driver installation
D:\Driver\FLASH	For BIOS update utility
D:\Driver\LAN	For LAN Driver installation
D:\Driver\Sound	Realtel ALC202A AC97 For Sound driver installation
D:\Driver\UTILITY	Intel® Chipset Software Installation Utility For Win 2000, XP
D:\Driver\USB 2.0	USB 2.0 Software Installation Utility For Win 98SE,2000,ME,XP
D:\Driver\TOUCH	For Elo Touch screen driver

3-2. VGA DRIVER UTILITY

The VGA interface embedded with our PPC-7508F can support a wide range of display. You can display CRT, LVDS simultaneously with the same mode.



3-3-1. Installation of VGA Driver:

To install the VGA Driver, simply follow the following steps:

(1). Place insert the Utility Disk into Floppy Disk Drive A/B or CD ROM drive.
(2). Under Windows 98SE/NT4.0/2000/XP system, go to the directory where VGA driver is located.
(3). Click **Setup.exe** file for VGA driver installation.
(4). Follow the instructions on the screen to complete the installation.
(5). Once installation is completed, shut down the system and restart in order for the changes to take effect.

Under the Windows 98 system, after rebut computer, there will have two error messages appear, “Can’t find ikch8xx.cat and isb8xx.cat, just skip the messages, they will not cause any effects.

3-3. FLASH BIOS UPDATE

3-3-1. Introduction

Users of PPC-7508F can use the program “Awdflash.exe” contained in the Utility Disk for system BIOS update.

3-3-2. Installation of system BIOS

1. Copy “Awdflash.exe” from Driver Disk to Drive C.
2. Type the path to Awdflash.exe and execute the system BIOS
   AWDFLASH 7500xxxx.bin
3. The screen will display the table below:

FLASH MEMORY WRITER V7.XX (C) Award Software 2001 All Rights Reserved
Flash Type -49LF004B File Name to Program: 7500xxxx.bin
Error Message : Do You Want To Save BIOS (Y/N)

If you want to save up the original BIOS, enter "Y" and press < Enter > .
If you choose "N", the following table will appear on screen.

FLASH MEMORY WRITER V7.XX (C) Award Software 2001 All Rights Reserved
Flash Type - 49LF004B File Name to Program: 7500xxxx.bin
Error Message : Are You Sure To Program (Y/N)

Select "Y", and the BIOS will be renewed. When you are refreshing the BIOS, do not turn off or reset the system, or you will damage the BIOS.

After you have completed all the programming, the screen displays the table below:

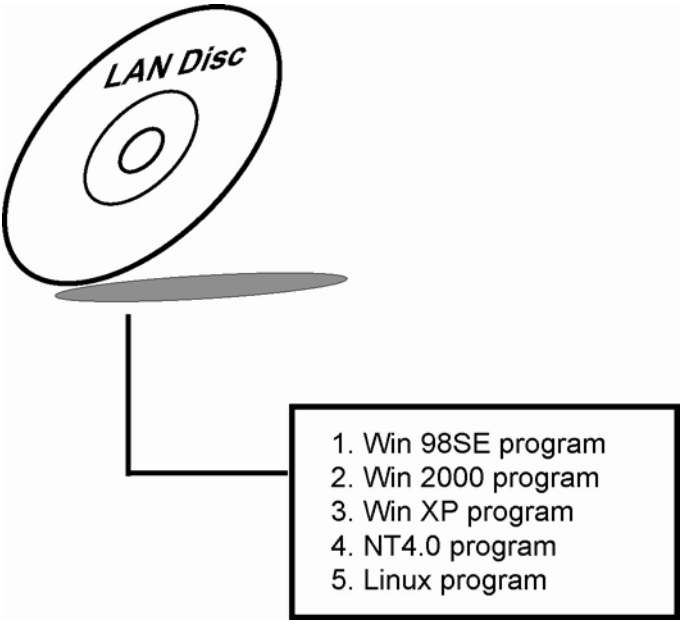
FLASH MEMORY WRITER V7.XX (C) Award Software 2001 All Rights Reserved
Flash Type –49LF004B File Name to Program: 7500xxxx.bin Verifying Flash Memory – 7FFFF OK ☐Write OK ☐No Update ☐Write Fail
F1: Reset F10: Exit

Please reset or power off the system, then the Flash BIOS is fully implemented.

3-4. LAN DRIVER UTILITY

3-4-1. Introduction

The PPC-7508F Panel PC is enhanced with LAN function that can support various network adapters. Installation programs for LAN drivers are listed as follows:

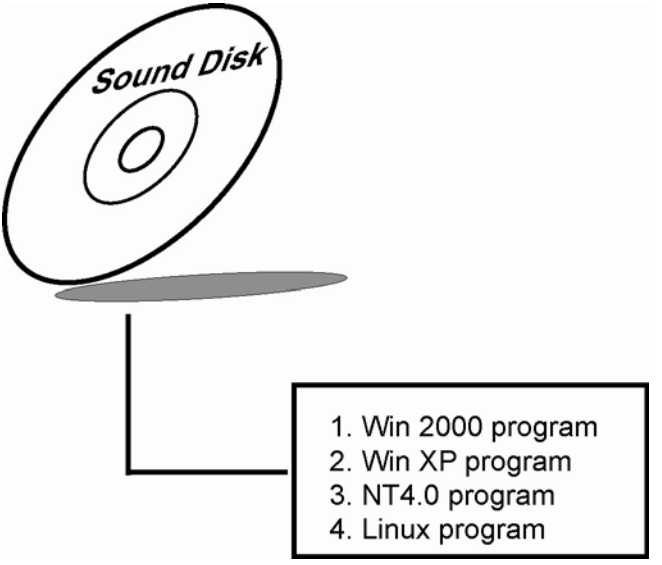


For more details on Installation procedure, please refer to Readme.txt file found on LAN DRIVER UTILITY.

3-5. SOUND DRIVER UTILITY

3-5-1. Introduction

The Realtek ALC202A sound function enhanced in this system is fully compatible with Windows NT 4.0, Windows 2000, Windows XP and Linux. Below, you will find the content of the Sound driver :



3-5-2. Installation Procedure for Windows 9x/NT/2000/XP

1. From the task bar, click on Start, and then Run.
2. In the Run dialog box, type D:\Sound\setup, where "D:\Sound\pathname" refers to the full path to the source files.
3. Click on the OK button or press the ENTER key.
4. Click on the "Next" and OK prompts as they appear.
5. Reboot the system to complete the driver installation.

3-6. INTEL® CHIPSET SOFTWARE INSTALLATION UTILITY

3-6-1. Introduction

The Intel® Chipset Software Installation Utility installs to the target system the Windows* INF files that outline to the operating system how the chipset components will be configured. This is needed for the proper functioning of the following features:

- Core PCI and ISAPNP Services
- AGP Support
- IDE/ATA33/ATA66/ATA100 Storage Support
- USB Support
- Identification of Intel® Chipset Components in Device Manager

3-6-2. Installation of Utility for Windows 2000/XP

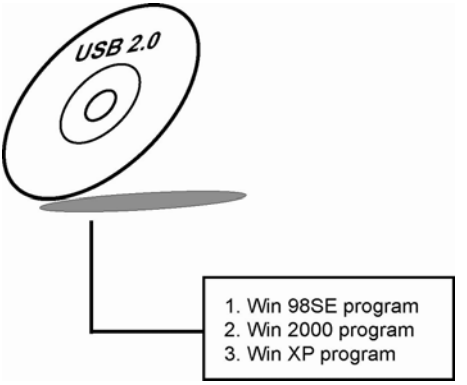
The Utility Pack is to be installed only for Windows 2000 and XP program.
It should be installed right after the OS installation, kindly follow the following steps:

1. Place insert the Utility Disk into Floppy Disk Drive A/B or CD ROM drive.
2. Under Windows 2000, XP system, go to the directory where Utility Disc is located.
3. Click **Setup.exe** file for utility installation.
4. Follow the instructions on the screen to complete the installation.
5. Once installation is completed, shut down the system and restart in order for the changes to take effect.

3-7. USB2.0 SOFTWARE INSTALLATION UTILITY

3-7-1. Installation of Utility for Windows 98SE/ 2000/XP

Intel USB 2.0 Enhanced Host Controller driver can only be used on Windows 98SE, Windows 2000 and Windows XP on Intel Desktop boards.



It should be installed right after the OS installation, kindly follow the following steps:

1. Place insert the Utility Disk into Floppy Disk Drive A/B or CD ROM drive.
2. Under Windows 98SE, 2000, and XP system, go to the directory where Utility Disc is located.
3. Start the "System" wizard in control panel. (Click Start/Settings/Control Panel).
4. Select "Hardware" and click "Device Manager " button.
5. Double Click "USB Root Hub".
6. Select "Driver".
7. Click "Install" to install the driver.
8. Follow the instructions on the screen to complete the installation.
9. Click "Finish" after the driver installation is complete.

3-8. TOUCH SCREEN DRIVER UTILITY

To install, kindly refer to the readme.txt file found each separate file of the Driver Disc.

3-9. WATCHDOG TIMER CONFIGURATION

The Watch-dog Timer has a programmable time-out ranging from 1 to 255 minutes with one minute resolution, or 1 to 255 seconds with 1 second resolution. The units of the WDT timeout value are selected via bit[7] of the WDT_TIMEOUT register, which is located on I/O Port address 0x865h. The WDT time-out value is set through the WDT_VAL Runtime register, which is located on I/O Port address 0x866h. Setting the WDT_VAL register to 0x00 disables the WDT function Setting the WDT_VAL to any other non-zero value will cause the WDT to reload and begin counting down from the value loaded. Setting the Register located on I/O address 0x867h and 0x868h as 00h to finish timer configuration.

Example Program

```
Example Code:
(1)
;------------------------------------------------------
;Enable Watch-Dog Timer
;------------------------------------------------------
                mov     dx,(800h+65h)   ;Time counting Unit minute or second
                mov     al,80h          ;al = 00h : minute, or al = 80h :
second
          out           dx,al

                mov     dx,(800h+66h)
                mov     al,20           ;al=Watch Dog Timer Second(s) , 20
sec(s)
          out           dx,al

          mov           dx,(800h+67h)
          mov           al,00h
                out     dx,al


                mov     dx,(800h+68h)   ;Start Watch Dog Timer
          mov           al,00h
          out           dx,al

(2)
;------------------------------------------------------
;Disable Watch-Dog Timer
;------------------------------------------------------
                mov     dx,(800h+66h)   ;Disabled Watch Dog
          mov           al,00h
          out           dx,al

          mov           dx,(800h+67h)
          mov           al,00h
          out           dx,al

                mov     dx,(800h+68h)   ;Clear Status Bit
          mov           al,00h
          out           dx,al
```

AWARD BIOS SETUP

CHAPTER 4

This chapter shows how to set up the Award BIOS.

Section includes:

- Introduction
- Entering Setup
- The Standard CMOS Features
- The Advanced BIOS Features
- The Advanced Chipset Features
- Integrated Peripherals
- Power Management Setup
- PNP/PCI Configuration
- PC Health Status
- Frequency Control
- Load Fail-Safe Defaults
- Load Optimized Defaults
- Password Setting
- Save and Exit Setup
- Exit Without Saving

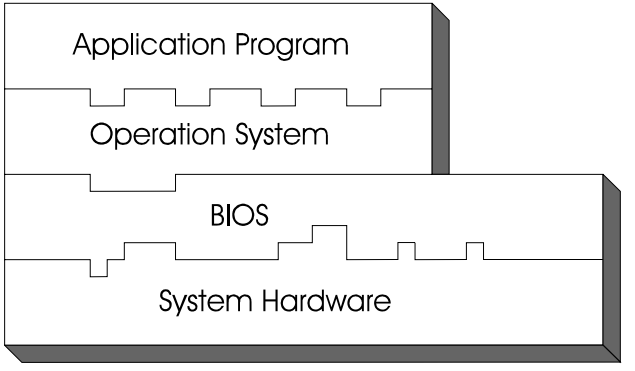
4-1. INTRODUCTION

This chapter will show you the function of the BIOS in managing the features of your system. The PPC-7508F Panel PC is equipped with the BIOS for system chipset from Award Software Inc. This page briefly explains the function of the BIOS in managing the special features of your system. The following pages describe how to use the BIOS for system chipset Setup menu.

Your application programs (such as word processing, spreadsheets, and games) rely on an operating system such as DOS or OS/2 to manage such things as keyboard, monitor, disk drives, and memory.

The operating system relies on the BIOS (Basic Input and Output system), a program stored on a ROM (Read-only Memory) chip, to initialize and configure your computer's hardware. As the interface between the hardware and the operating system, the BIOS enables you to make basic changes to your system's hardware without having to write a new operating system.

The following diagram illustrates the interlocking relationships between the system hardware, BIOS, operating system, and application program:



4-2. ENTERING SETUP

When the system is powered on, the BIOS will enter the Power-On Self Test (POST) routines and the following message will appear on the lower screen:

PRESS <DEL> TO ENTER SETUP, ESC TO SKIP MEMORY TEST

As long as this message is present on the screen you may press the <Del> key (the one that shares the decimal point at the bottom of the number keypad) to access the Setup program. In a moment, the main menu of the Award SETUP program will appear on the screen:

Phoenix - AwardBIOS CMOS Setup Utility

►Standard CMOS Features	►Frequency Control
►Advanced BIOS Features	Load Fail-Safe Defaults
►Advanced Chipset Features	Load Optimized Defaults
►Integrated Peripherals	Set Supervisor Password
►Power Management Setup	Set User Password
►PnP/PCI Configurations	Save & Exit Setup
►PC Health Status	Exit Without Saving
Esc : Quit F10 : Save & Exit Setup	↑↓→← : Select Item
Time, Date, Hard Disk Type ….	

Setup program initial screen

You may use the cursor the up/down keys to highlight the individual menu items. As you highlight each item, a brief description of the highlighted selection will appear at the bottom of the screen.

4-3. THE STANDARD CMOS FEATURES

Highlight the "STANDARD CMOS FEATURES" and press the <ENTER> key and the screen will display the following table:

Phoenix - AwardBIOS CMOS Setup Utility
Standard CMOS Features

Date (mm:dd:yy)	Wed, Feb 23 2005	Item Help
Time (hh:mm:ss)	9 : 32 : 52	Menu Level ►
► IDE Primary Master	[None]	
► IDE Primary Slave	[None]	Change the day, month, year and century
► IDE Secondary Master	[None]	
► IDE Secondary Slave	[None]	
Video	[EGA/VGA]	
Halt On	[All, But Keyboard]	
Base Memory	640K	
Extended Memory	1013760K	
Total Memory	1014784K	

↑↓→←: Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7:Optimized Defaults

CMOS Setup screen

In the above Setup Menu, use the arrow keys to highlight the item and then use the <PgUp> or <PgDn> keys to select the value you want in each item.

Date:

< Month >, < Date > and <Year >. Ranges for each value are in the CMOS Setup Screen, and the week-day will skip automatically.

Time:

< Hour >, < Minute >, and < Second >. Use 24 hour clock format, i.e., for PM numbers, add 12 to the hour. For example: 4: 30 P.M. You should enter the time as 16:30:00.

IDE Primary Master / Slave:
IDE Secondary Master / Slave:

The BIOS can automatically detect the specifications and optimal operating mode of almost all IDE hard drives. When you select type AUTO for a hard drive, the BIOS detect its specifications during POST, every time system boots.

If you do not want to select drive type AUTO, other methods of selecting drive type are available:

1. Match the specifications of your installed IDE hard drive(s) with the preprogrammed values for hard drive types 1 through 45.
2. Select USER and enter values into each drive parameter field.
3. Use the IDE HDD AUTO DETECTION function in Setup.

Here is a brief explanation of drive specifications:

Type: The BIOS contains a table of pre-defined drive types. Each defined drive type has a specified number of cylinders, number of heads, write precompensation factor, landing zone, and number of sectors. Drives whose specifications do not accommodate any predefine type are classified as type USER.

- Size: Disk drive capacity (approximate). Note that this size is usually greater than the size of a formatted disk given by a disk-checking program.
- Cyls: number of cylinders.
- Head: number of heads.
- Precomp: write precompensation cylinders.
- Landz: landing zone.
- Sector: number of sectors.
- Mode: Auto, Normal, Large or LBA.

  Auto: The BIOS automatically determines the optimal mode.

  - Normal: Maximum number of cylinders, heads, sectors supported are 1024, 16 and 63.
  - Large: For drives that do not support LBA and have more than 1024 cylinders.

- LBA (Logical Block Addressing): During drive accesses, the IDE controller transforms the data address described by sector, head and cylinder number into a physical block address, significantly improving data transfer rates. For drives greater than 1024 cylinders.

VIDEO:

This category selects the type of video adapter used for the primary system monitor. Although secondary monitors are supported, you do not have to select the type in Setup. Available Options are as follows:

EGA/VGA	Enhanced Graphics Adapter/Video Graphics Array. For EGA, VGA, SEGA, SVGA or PGA monitor adapters.
CGA 40	Color Graphics Adapter, power up in 40 column mode.
CGA 80	Color Graphics Adapter, power up in 80 column mode.
MONO	Monochrome adapter, includes high resolution monochrome adapters.

HALT ON:

This category allows user to choose whether the computer will stop if an error is detected during power up. Available options are “All errors”, “No errors”, “All, But keyboard”, “All, But Diskette”, and “All But Disk/Key”.

BASE MEMORY:

Displays the amount of conventional memory detected during boot up.

EXTENDED MEMORY:

Displays the amount of extended memory detected during boot up.

TOTAL MEMORY:

Displays the total memory available in the system.

HARD DISK ATTRIBUTES:

Type	Cylinders	Heads	V-P comp	LZone	Sect	Capacity
1	306	4	128	305	17	10
2	615	4	300	615	17	20
3	615	6	300	615	17	30
4	940	8	512	940	17	62
5	940	6	512	940	17	46
6	615	4	65535	615	17	20
7	642	8	256	511	17	30
8	733	5	65535	733	17	30
9	900	15	65535	901	17	112
10	820	3	65535	820	17	20
11	855	5	65535	855	17	35
12	855	7	65535	855	17	49
13	306	8	128	319	17	20
14	733	7	65535	733	17	42
15	000	0	0000	000	00	00
16	612	4	0000	663	17	20
17	977	5	300	977	17	40
18	977	7	65535	977	17	56
19	1024	7	512	1023	17	59
20	733	5	300	732	17	30
21	733	7	300	732	17	42
22	733	5	300	733	17	30
23	306	4	0000	336	17	10
24	977	5	65535	976	17	40
25	1024	9	65535	1023	17	76
26	1224	7	65535	1223	17	71
27	1224	11	65535	1223	17	111
28	1224	15	65535	1223	17	152
29	1024	8	65535	1023	17	68
30	1024	11	65535	1023	17	93
31	918	11	65535	1023	17	83
32	925	9	65535	926	17	69
33	1024	10	65535	1023	17	85
34	1024	12	65535	1023	17	102
35	1024	13	65535	1023	17	110
36	1024	14	65535	1023	17	119
37	1024	2	65535	1023	17	17
38	1024	16	65535	1023	17	136
39	918	15	65535	1023	17	114
40	820	6	65535	820	17	40
41	1024	5	65535	1023	17	42
42	1024	5	65535	1023	26	65
43	809	6	65535	852	17	40
44	809	6	65535	852	26	61
45	776	8	65335	775	33	100
47			AUTO			

Award Hard Disk Type Table

4-4. THE ADVANCED BIOS FEATURES

Choose the "ADVANCED BIOS FEATURES" in the main menu, the screen shown as below.

Phoenix - AwardBIOS CMOS Setup Utility
Advanced BIOS Features

Virus Warning	[Enabled]	Item Help
CPU L1 & L2 Cache	[Enabled]	
CPU L3 Cache	[Enabled]	
Quick Power On Self Test	[Enabled]	Menu Level ►
First Boot Device	[SATA/SCSI]	
Second Boot Device	[HDD-0]	
Boot Up Floppy Seek	[Enabled]	
Boot Up NumLock Status	[On]	
Typematic Rate Setting	[Disabled]	
x Typematic Rate (Chars/Sec)	6	
x Typematic Delay (Msec)	250	
Security Option	[Setup]	

↑↓→←: Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7:Optimized Defaults

BIOS Features Setup Screen

The "BIOS FEATURES SETUP" allow you to configure your system for basic operation. The user can select the system's default speed, boot-up sequence, keyboard operation, shadowing and security.

A brief introduction of each setting is given below.

Virus Warning:

Allows you to choose the VIRUS warning feature for IDE Hard Disk boot sector protection. If this function is enabled and someone attempt to write data into this area, BIOS will show a warning message on screen and alarm beep.

CPU L1 & L2 CACHE:

This item allows you to enable L1 & L2 cache.

QUICK POWER ON SELF-TEST:

This item allows you to speed up Power On Self Test (POST) after power-up the computer. When enabled, the BIOS will shorten or skip some check items during POST.

FIRST/SECOND/BOOT DEVICE:

The BIOS attempt to load the operating system from the devices in the sequence selected in these items.

BOOT UP FLOPPY SEEK:

You may enable / disable this item to define whether the system will look for a floppy disk drive to boot at power-on, or proceed directly to the hard disk drive.

BOOT UP NUMLOCK STATUS:

Select power on state for NumLock.

TYPEMATIC RATE SETTING:

Enable this item if you wish to be able to configure the characteristics of your keyboard. Typematic refers to the way in which characters are entered repeatedly if a key is held down. For example, if you press and hold down the "A" key, the letter "a" will repeatedly appear on your screen on your screen until you release the key. When enabled, the typematic rate and typematic delay can be selected.

TYPEMATIC RATE (CHARS/SEC):

This item sets the number of times a second to repeat a key stroke when you hold the key down.

TYPEMATIC DELAY (MSEC):

The item sets the delay time after the key is held down before it begins to repeat the keystroke.

SECURITY OPTION:

This category allows you to limit access to the system and Setup, or just to Setup.

System	The system will not boot and access to Setup will be denied if the correct password is not entered at the prompt.
Setup	The system will boot, but access to Setup will be denied if the correct password is not entered at the prompt.

🔔 To disable security, select PASSWORD SETTING at Main Menu and then you will be asked to enter password. Do not type anything and just press <Enter>, it will disable security. Once the security is disabled, the system will boot and you can enter Setup freely.

4-5. ADVANCED CHIPSET FEATURES

Choose the "ADVANCED CHIPSET FEATURES" from the main menu, the screen shown as below.

Phoenix - AwardBIOS CMOS Setup Utility
Advanced Chipset Features

DRAM Timing Selectable	[By SPD]	Item Help
X CAS Latency Time	[2.5]	
Active to Precharge Delay	[7]	
X DRAM RAS# to CAS# Delay	[3]	Menu Level ►
X DRAM RAS# Precharge	[3]	
DRAM Data Integrity Mode	[Non-ECC]	
System BIOS Cacheable	[Enabled]	
Video BIOS Cacheable	[Disabled]	
Memory Hole At 15M-16M	[Enabled]	
Delayed Transaction	[Enabled]	
AGP Aperture Size (MB)	[64]	
** VGA Setting **		
On-Chip VGA	[Enabled]	
On-Chip Frame Buffer Size	[32MB]	
Boot Display	[CRT+LFP]	
PCI SERR# NMI	[Disabled]	

↑↓→←: Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7:Optimized Defaults

Chipset Features Setup Screen

This parameter allows you to configure the system based on the specific features of the installed chipset. The chipset manages bus speed and access to system memory resources, such as DRAM and the external cache.

It also coordinates communications between conventional ISA bus and the PCI bus. It must be stated that these items should never need to be altered. The default settings have been chosen because they provide the best operating conditions for the system. The only time you might consider making any changes would be if you discovered that data was being lost while using your system.

DRAM TIMEING SELECTABLE:

The value in this field depends on performance parameters of the installed memory chips (DRAM). Do not change the value from the factory setting unless you install new memory that has a different performance rating than the original DRAMs.

CAS LATENCY TIME:

When synchronous DRAM is installed, the number of clock cycles of CAS latency depends on the DRAM timing.

DRAM RAS# TO CAS# DELAY:

This item let you insert a timing delay between the CAS and RAS strobe signals, used when DRAM is written to, read from, or refreshed. Fast gives faster performance; and Slow gives more stable performance. This field applies only when synchronous DRAM is installed in the system. The choices are 2 and 3.

DRAM RAS# PRECHARGE TIME:

If an insufficient number of cycles is allowed for the RAS to accumulate its charge before DRAM refresh, the refresh may be incomplete and the DRAM may fail to retain data. Fast gives faster performance; and Slow gives more stable performance. This field applies only when synchronous DRAM is installed in the system. The choices are 2 & 3.

SYSTEM BIOS CACHEABLE:

Selecting Enabled allows caching of the system BIOS ROM at F0000h-FFFFFh, resulting in better system performance. However, if any program writes to this memory area, a system error may result.

VIDEO BIOS CACHEABLE:

Select Enabled allows caching of the video BIOS, resulting in better system performance. However, if any program writes to this memory area, a system error may result.

On-Chip VGA

To Enable/Disable the onboard display chip.

Boot Display

To select the boot-up display type.

PCI SERR# NMI

To Enable/Disable the PCI SERR# interrupt

4-6. INTEGRATED PERIPHERALS

Choose "INTEGRATED PERIPHERALS" from the main setup menu, a display will be shown on screen as below:

Phoenix - AwardBIOS CMOS Setup Utility
Integrated Peripherals

▶ OnChip IDE Device	[Press Enter]	Item Help
▶ Onboard Device	[Press Enter]	
▶ SuperIO Device	[Press Enter]	Menu Level ▶
Onboard Serial Port 3	[3E8/IRQ10]	
Onboard Serial Port 4	[2E8/IRQ11]	
WatchDog Support	[Disabled]	

↑↓→←: Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7:Optimized Defaults

Integrated Peripherals Setup Screen

By moving the cursor to the desired selection and by pressing the <F1> key, the all options for the desired selection will be displayed for choice.

If bios setup menu item supports USB device boot, it will cause Win9x detects the same storages twice when the system is rebooted, and USB HDD will fail. Note: this cause just happen under Win9x, the phenomenon is a limitation.

VIA ONCHIP IDE DEVICE:

The options for these items are found in its sub menu. By pressing the <ENTER> key, you are prompt to enter the sub menu of the detailed options as shown below:

Phoenix – Award CMOS Setup Utility
OnChip IDE Device

OnChip Primary PCI IDE	[Enabled]	Item Help
IDE Primary Master PIO	[Auto]	
IDE Primary Slave PIO	[Auto]	
IDE Primary Master UDMA	[Auto]	Menu Level ►
IDE Primary Slave UDMA	[Auto]	
OnChip Secondary PCI IDE	[Enabled]	
IDE Secondary Master PIO	[Auto]	
IDE Secondary Slave PIO	[Auto]	
IDE Secondary Master UDMA	[Auto]	
IDE Secondary Slave UDMA	[Auto]	
IDE HDD Block Mode	[Enabled]	

↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

Descriptions on each item above are as follows:

1. **OnChip Primary PCI IDE**
   The integrated peripheral controller contains an IDE interface with support for two IDE channels. Select Enabled to activate each channel separately.
2. **Primary Master/Slave PIO**
   Secondary Master/Slave PIO
   The four IDE PIO fields allow you to set a PIO mode (0-4) for each of the four IDE devices that the onboard IDE interface supports. Modes 0 through 4 provide successively increased performance. In Auto mode, the system automatically determines the best mode for each device.
3. **Primary Master/Slave UDMA**
   Secondary Master/Slave UDMA
   Ultra DMA/33 implementation is possible only if your IDE hard drive supports it and the operating environment includes a DMA driver (Windows 95 OSR2 or a third-party IDE bus master driver). If you hard drive and your system software both support Ultra DMA/33,

select Auto to enable BIOS support.

4. **IDE HDD Block Mode:**
   Block mode is also called block transfer, multiple commands, or multiple sector read/write. If your IDE hard drive supports block mode (most new drives do), select Enabled for automatic detection of the optimal number of block read/writes per sector the drive can support.

ONBOARD DEVICE:

The options for these items are found in its sub menu. By pressing the <ENTER> key, you are prompt to enter the sub menu of the detailed options as shown below:

Phoenix – Award CMOS Setup Utility
Onboard Device

USB Controller	[Enabled]	Item Help
USB 2.0 Controller	[Enabled]	
USB Keyboard Support	[Disabled]	
USB Mouse Support	[Disabled]	Menu Level ►
AC97 Audio	[Auto]	
Init Display First	[Onboard/AGP]	
↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults		

Descriptions on each item above are as follows:

1. **USB Controller**
   This should be enabled if your system has a USB installed on the system board and you want to use it. Even when so equipped, if you add a higher performance controller, you will need to disable this feature.
2. **USB Keyboard Support**
   Select Enabled if your system contains a Universal Serial Bus (USB) controller and you have a USB keyboard.
3. **USB Mouse Support**
   Select Enabled if your system contains a Universal Serial Bus (USB) controller and you have a USB Mouse.
4. **AC97 Audio:**
   This item allows you to enable/disable to support AC97 Audio.
5. **Init Display First**
   Select the initial Display type

SUPER IO DEVICE:

The options for these items are found in its sub menu. By pressing the <ENTER> key, you are prompt to enter the sub menu of the detailed options as shown below:

Phoenix – Award CMOS Setup Utility
SuperIO Device

Onboard FDC Controller	[Enabled]	Item Help
Onboard Serial Port 1	[3F8/IRQ4]	
Onboard Serial Port 2	[2F8/IRQ3]	
Onboard Parallel Port	[378/IRQ7]	Menu Level ►
Parallel Port Mode	[SPP]	
ECP Mode Use DMA	[3]	

↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

Descriptions on each item above are as follows:

1. **Onboard FDC Controller**
   Select Enabled if the system has a floppy disk controller (FDC) installed on the system board and you wish to use it. If you install and-in FDC or the system has no floppy drive, select Disabled.
2. **Onboard Serial Port 1/2**
   Select an address and corresponding interrupt for the first and second serial ports.
3. **Onboard Parallel Port**
   This item allows you to determine access onboard parallel port controller with which I/O address.
4. **Parallel Port Mode**
   Select an operating mode for the onboard parallel (printer) port. Select *Normal, Compatible,* or *SPP* unless you are certain your hardware and software both support one of the other available modes.
5. **ECP Mode Use DMA**
   Select a DMA channel for the parallel port for use during ECP mode.

ONBOARD SERIAL PORT 3:
ONBOARD SERIAL PORT 4:

Select a logical COM port name and matching address for the third and forth serial ports. Select an address and corresponding interrupt for third and forth serial port.

4-7. POWER MANAGEMENT SETUP

Choose "POWER MANAGEMENT SETUP" option on the main menu, a display will be shown on screen as below :

Phoenix - AwardBIOS CMOS Setup Utility
Power Management Setup

ACPI Function	[Enabled]	Item Help
Power Management	[User Define]	
Video Off Method	[DPMS]	
Video Off In Suspend	[Yes]	
MODEM Use IRQ	[3]	
Suspend Mode	[Disabled]	
		Menu Level ►
Soft-Off by PWR-BTTN	[Instant-Off]	
PWRON After PWR-Fail	[Off]	
Wake on LAN	[Enabled]	
Power On by Ring	[Disabled]	
Resume by Alarm	[Disabled]	
x Date (of Month) Alarm	0	
x Time (hh:mm:ss) Alarm	0 : 0 : 0	
** Reload Global Timer Events **		
FDD,COM,LPT Port	[Disabled]	
PCI PIRQ[A-D]#	[Disabled]	

↑↓→←: Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7:Optimized Defaults

Power Management Setup Screen

The "Power Management Setup" allows the user to configure the system to the most effectively save energy while operating in a manner consistent with your own style of computer use.

ACPI FUNCTION:

Users are allowed to enable or disable the Advanced Configuration and Power Management (ACPI).

POWER MANAGEMENT:

This item allows you to select the Power Management mode.

SOFT-OFF BY PWR-BTTN:

Pressing the power button for more than 4 seconds forces the system to enter the Soft-Off state when the system has "hung". The choices are Delay 4 Sec and Instant-Off.

PWRON After PWR-Fail:

This item allows you to select if you want to power on the system after power failure. The choice: Off, On, Former-Sts.

WAKE ON LAN:

An input signal from PME on the PCI card awakens the system from a soft off state.

RESUME BY ALARM:

When *Enabled,* your can set the date and time at which the RTC (real-time clock) alarm awakens the system from Suspend mode.

4-8. PNP/PCI CONFIGURATION

Choose "PNP/PCI CONFIGURATION" from the main menu, a display will be shown on screen as below:

Phoenix - AwardBIOS CMOS Setup Utility
PnP/PCI Configurations

Reset Configuration Data	[Disabled]	Item Help
Resources Controlled By	[Auto (ESCD)]	Menu Level ►
x IRQ Resources	Press Enter	
PCI/VGA Palette Snoop	[Disabled]	Select Yes if you are using a Plug and Play capable operating system Select No if you need the BIOS to configure non-boot devices

↑↓→←: Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7:Optimized Defaults

PNP/PCI Configuration Setup Screen

The PNP/PCI Configuration Setup describes how to configure PCI bus system. PCI, also known as Personal Computer Interconnect, is a system, which allows I/O devices to operate at speeds nearing the speed of the CPU itself uses when communicating with its own special components.

This section covers technical items, which is strongly recommended for experienced users only.

RESET CONFIGURATION DATA:

Normally, you leave this field Disabled. Select Enabled to reset Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add-on and the system configuration has caused such a serious conflict that the operating system cannot boot.

RESOURCE CONTROLLED BY:

The Award Plug and Play Bios can automatically configure all of the booth and Plug and Play-compatible devices. However, this capability means

absolutely nothing unless you are using a Plug and Play operating system such as Windows 95. By choosing "manual", you are allowed to configure the *IRQ Resources and DMA Resources*.

IRQ RESOURCES:

The options for these items are found in its sub menu. By pressing the <ENTER> key, you are prompt to enter the sub menu of the detailed options as shown below:

Phoenix – Award CMOS Setup Utility
IRQ Resources

IRQ-3 assigned to	[PCI Device]	Item Help
IRQ-4 assigned to	[PCI Device]	
IRQ-5 assigned to	[PCI Device]	
IRQ-7 assigned to	[PCI Device]	Menu Level ►
IRQ-9 assigned to	[PCI Device]	
IRQ-10 assigned to	[PCI Device]	Legacy ISA for devices compliant with the original PC AT bus specification, PCI/ISA PnP for devices compliant with the Plug and Play standard whether designed for PCI or ISA bus architecture
IRQ-11 assigned to	[PCI Device]	
IRQ-12 assigned to	[PCI Device]	
IRQ-14 assigned to	[PCI Device]	
IRQ-15 assigned to	[PCI Device]	

↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

Descriptions on each item above are as follows:

IRQ-n Assigned to:

You may assign each system interrupt a type, depending on the type of device using the interrupt.

4-9. PC HEALTH STATUS

Choose "PC HEALTH STATUS" from the main menu, a display will be shown on screen as below:

Phoenix - AwardBIOS CMOS Setup Utility
PC Health Status

Shutdown Temperature	[Disabled]	Item Help
Current CPU Temperature		Menu Level ►
+2.5V		
VCore		
VCC3		
VBAT		
5 V		
12 V		
Fan1 Speed		
Smart Fan1 Temperature	[45 °C]	

↑↓→←: Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7:Optimized Defaults

PC Health Status Setup Screen

The PC Health Status Setup allows you to select whether to choose between monitoring or to ignore the hardware monitoring function of your system.

SHUTDOWN TEMPERATURE:

This item allows you to set up the CPU shutdown Temperature. This function is only effective under Windows 98 ACPI mode.

CURRENT CPU TEMPERATURE:

This item shows you the current CPU temperature.

CURRENT SYSTEM FAN SPEED:

This item shows you the current System FAN speed.

+2.5/Vcore/Vcc3/VBAT/5V/12V

Show you the voltage of +2.5/Vcore/Vcc3/VBAT/5V/12V

Smart Fan1 Temperature

To Set Fan control starting Temperature.

4-10. FREQUENCY CONTROL

Choose "FREQUENCY CONTROL" from the main menu, a display will be shown on screen as below:

Phoenix - AwardBIOS CMOS Setup Utility
Frequency Control

Auto Detect PCI Clk	[Enabled]	Item Help
Spread Spectrum	[Enabled]	Menu Level ►
↑↓→←: Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5: Previous Values F6: Fail-Safe Defaults F7:Optimized Defaults		

Frequency Control Setup Screen

This setup menu allows you to specify your settings for frequency control.

AUTO DETECT PCI CLK:

This item allows you to enable or disable auto detect PCI Clock.

SPREAD SPECTRUM:

When the system clock generator pulses, the extreme values of the pulse generate excess EMI. Enabling pulse spectrum spread modulation changes the extreme values from spikes to flat curves, thus reducing EMI. This benefit may in some cases be outweighed by problems with timing-critical devices such as a clock-sensitive SCSI device.

4-11. LOAD FAIL-SAFE DEFAULTS

By pressing the <ENTER> key on this item, you get a confirmation dialog box with a message similar to the following:

```
Load Fail-Safe Defaults ( Y/N ) ? N
```

To use the BIOS default values, change the prompt to "Y" and press the <Enter > key. CMOS is loaded automatically when you power up the system.

4-12. LOAD OPTIMIZED DEFAULTS

When you press <Enter> on this category, you get a confirmation dialog box with a message similar to the following:

```
Load Optimized Defaults ( Y/N ) ? N
```

Pressing "Y" loads the default values that are factory setting for optimal performance system operations.

4-13. PASSWORD SETTING

User is allowed to set either supervisor or user password, or both of them. The difference is that the supervisor password can enter and change the options of the setup menus while the user password can enter only but do not have the authority to change the options of the setup menus.

TO SET A PASSWORD

When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

Enter Password:

Type the password up to eight characters in length, and press < Enter >. The password typed now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press the < Enter > key. You may also press < Esc > to abort the selection and not enter a password.

🔔 User should bear in mind that when a password is set, you will be asked to enter the password everything you enter CMOS setup Menu.

TO DISABLE THE PASSWORD

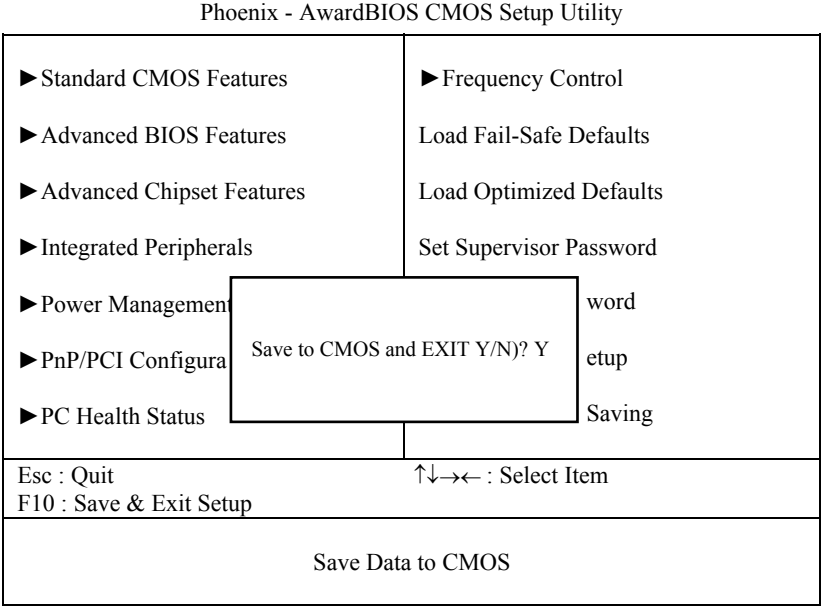
To disable the password, select this function (do not enter any key when you are prompt to enter a password), and press the <Enter> key and a message will appear at the center of the screen:

PASSWORD DISABLED!!! Press any key to continue...

Press the < Enter > key again and the password will be disabled. Once the password is disabled, you can enter Setup freely.

4-14. SAVE & EXIT SETUP

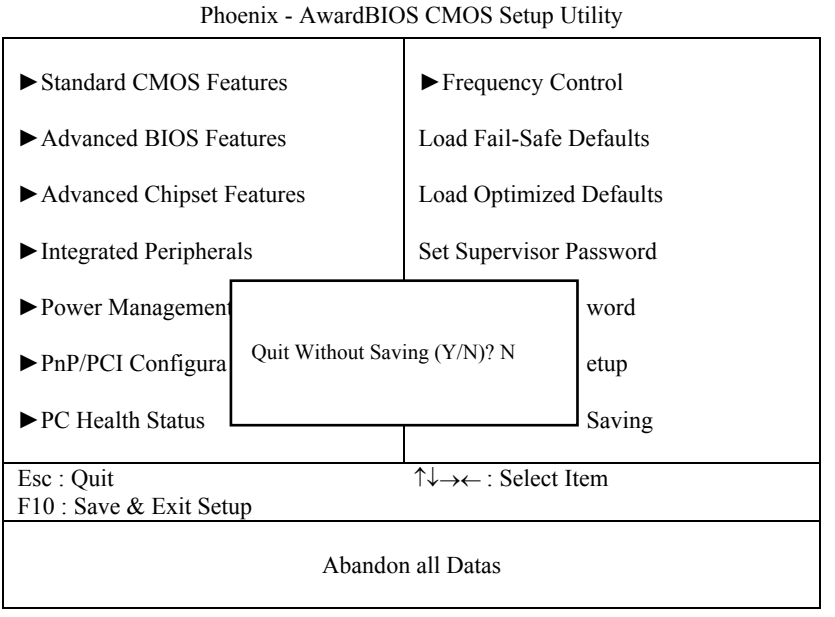
After you have completed adjusting all the settings as required, you must remember to save these setting into the CMOS RAM. To save the settings, select "SAVE & EXIT SETUP" and press <Enter>, a display will be shown as follows:



When you confirm that you wish to save the settings, your system will be automatically restarted and the changes you have made will be implemented. You may always call up the setup program at any time to adjust any of the individual items by pressing the <Del> key during boot up.

4-15. EXIT WITHOUT SAVING

If you wish to cancel any changes you have made, you may select the "EXIT WITHOUT SAVING" and the original setting stored in the CMOS will be retained. The screen will be shown as below:



SYSTEM ASSEMBLY

APPENDIX

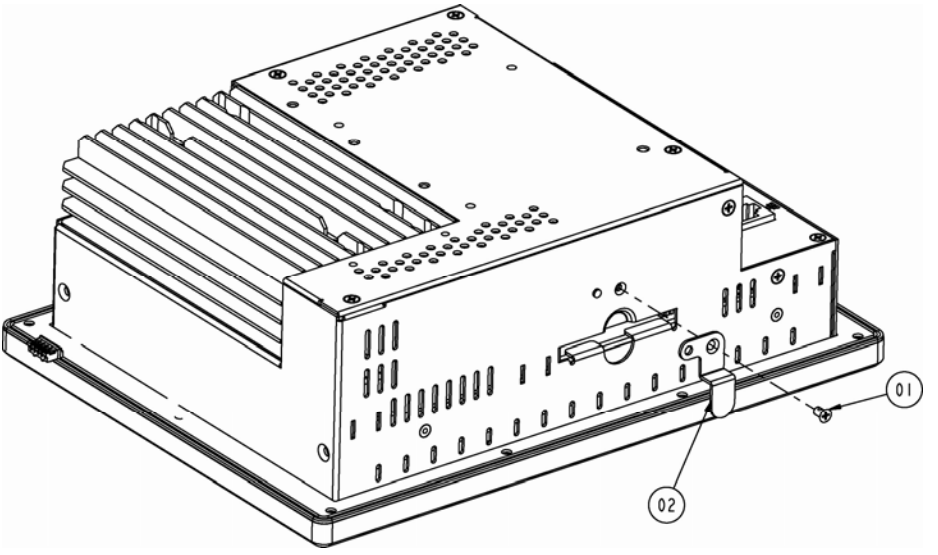
A

This appendix contain exploded diagram of the system.

Section includes:

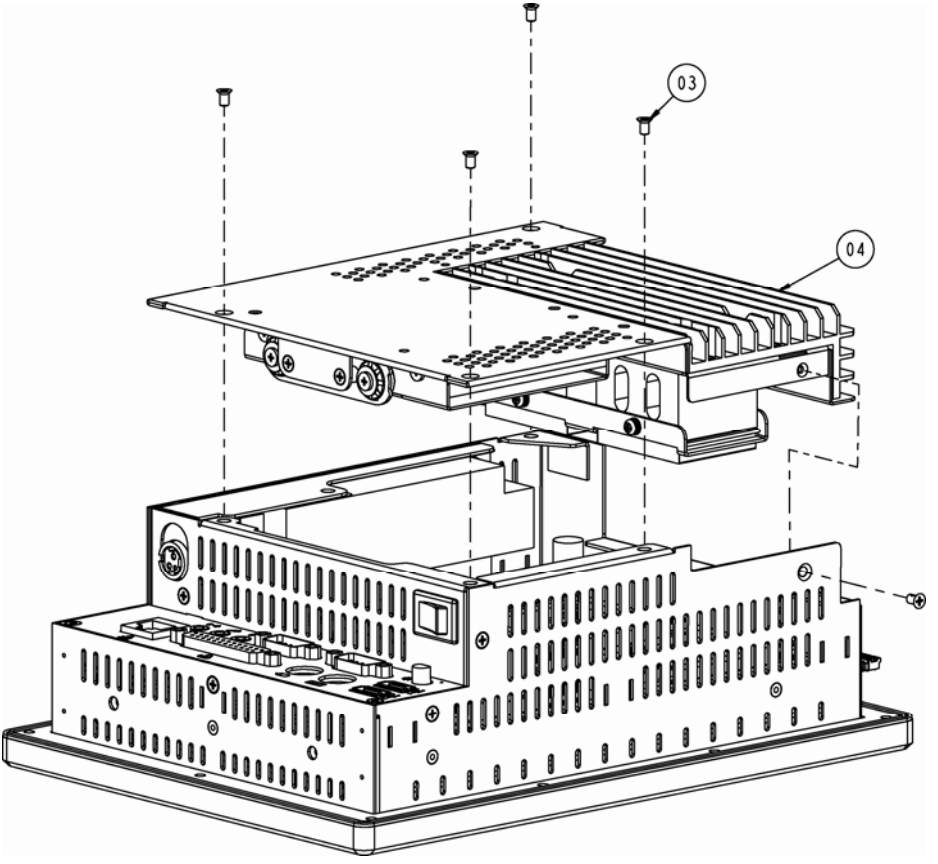
- Exploded Diagram for CF Card Hook
- Exploded Diagram for Fanless Back Cover
- Exploded Diagram for System Power Assembly
- Exploded Diagram for I/O Port Assembly
- Exploded Diagram for Motherboard
- Exploded Diagram for LCD Assembly
- Exploded Diagram for System Cable
- Exploded Diagram for System Inverter Board
- Exploded Diagram for Touch Panel
- Exploded Diagram for Front Panel
- Exploded Diagram for System I/O Side
- Exploded Diagram for Heatsink
- Exploded Diagram for Hard Disk Drive
- Exploded Diagram for Hard Disk Drive Holder
- Exploded Diagram for Power Holder

EXPLODED DIAGRAM FOR CF CARD HOOK



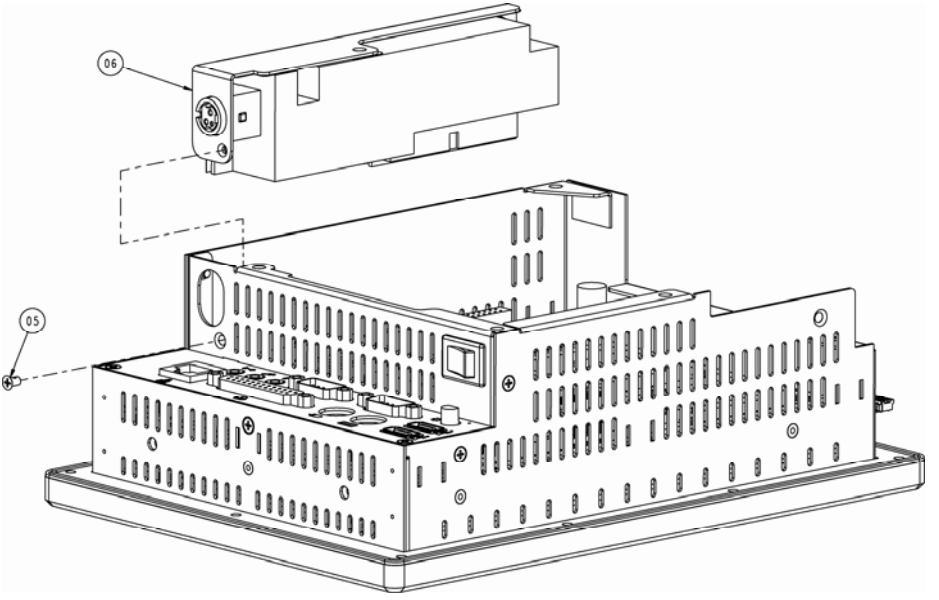
No.	Name	P/N No.	Torsion	Qt'y
02	7508 CF HOOK	20-025-03061098	--	1
01	M3_L5_F_NYLOK	22-215-30005111	8~9kgf-cm	1

EXPLODED DIAGRAM FOR FANLESS BACK COVER



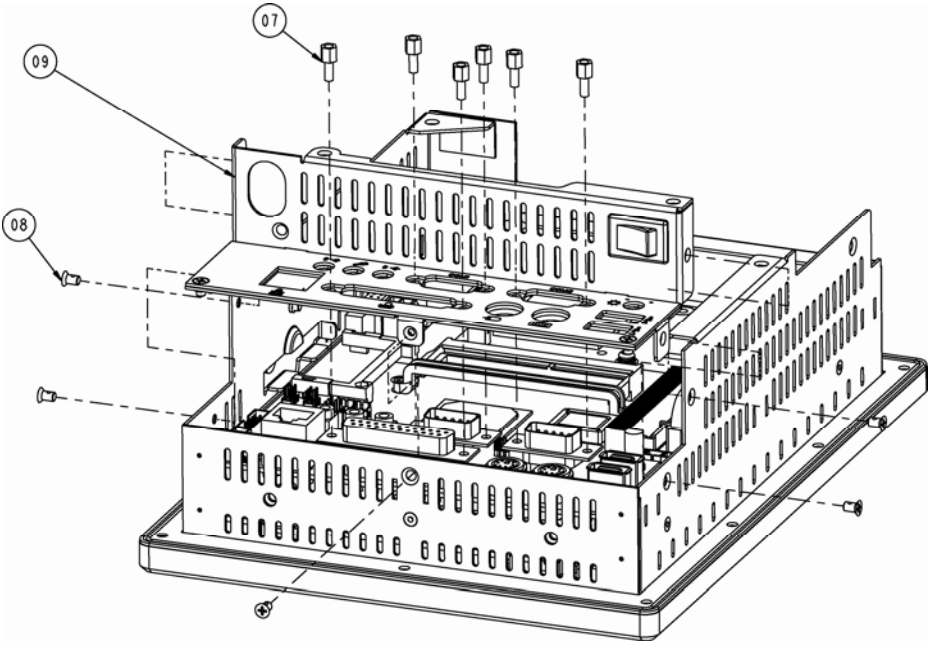
04	7508 FANLESS BACK ASSEMBLY	--	--	1
03	M3_L5_F_NYLOK	22-215-30005111	8~9kgf-cm	5
No.	Name	P/N No.	Torsion	Qt'y

EXPLODED DIAGRAM FOR SYSTEM POWER ASSEMBLY



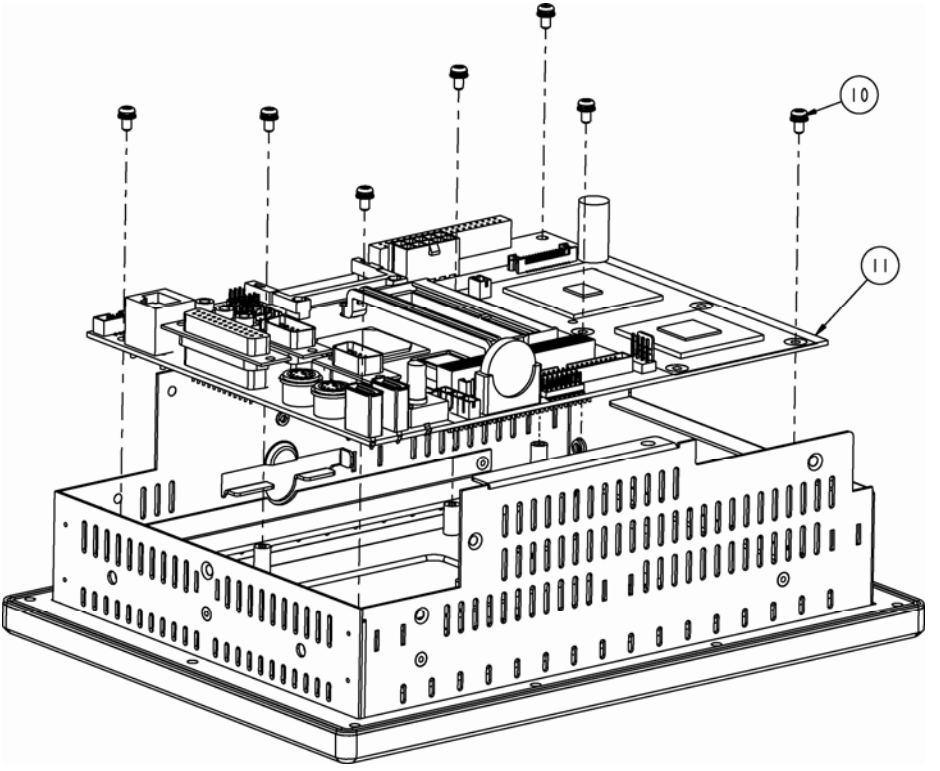
No.	Name	P/N No.	Torsion	Qt'y
06	POWER ASSEMBLY	--	--	1
05	M3_L5_F_NYLOK	22-215-30005111	8~9kgf-cm	1

EXPLODED DIAGRAM FOR I/O PORT ASSEMBLY



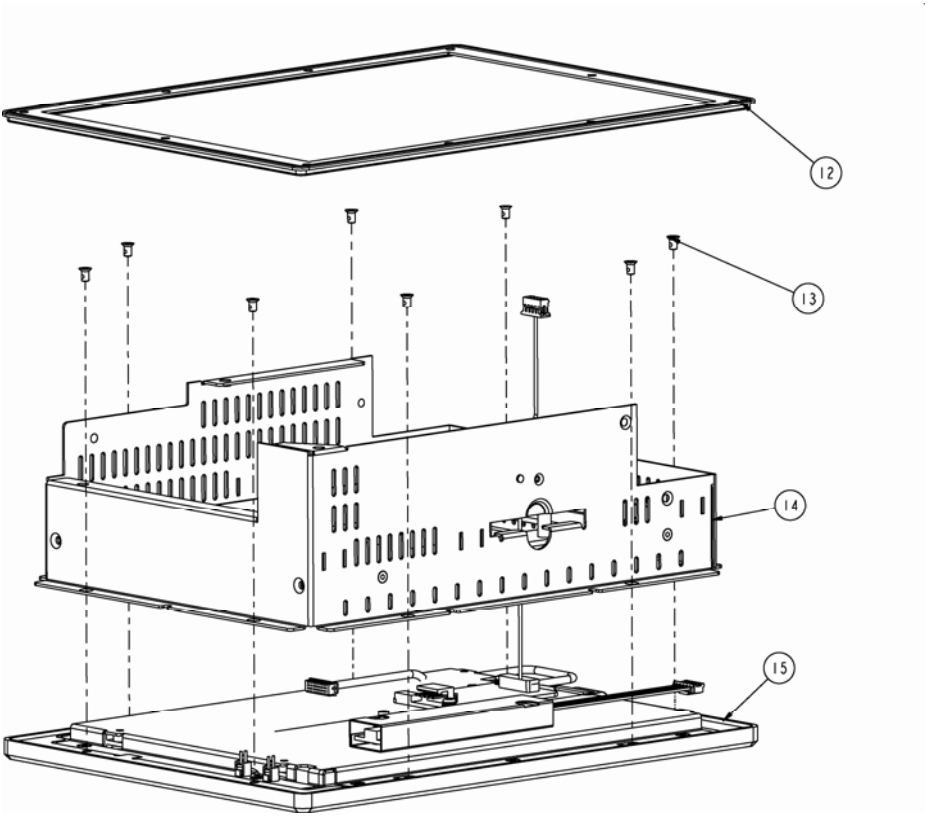
--	XX	XX		0
09	I/O ASSEMBLY	--	--	1
08	M3_L5_F_NYLOK	22-215-30005111	8~9kgf-cm	5
07	COM Port BOSS	22-692-40048051	8~9kgf-cm	6
No.	Name	P/N No.	Torsion	Qt'y

EXPLODED DIAGRAM FOR MOTHERBOARD



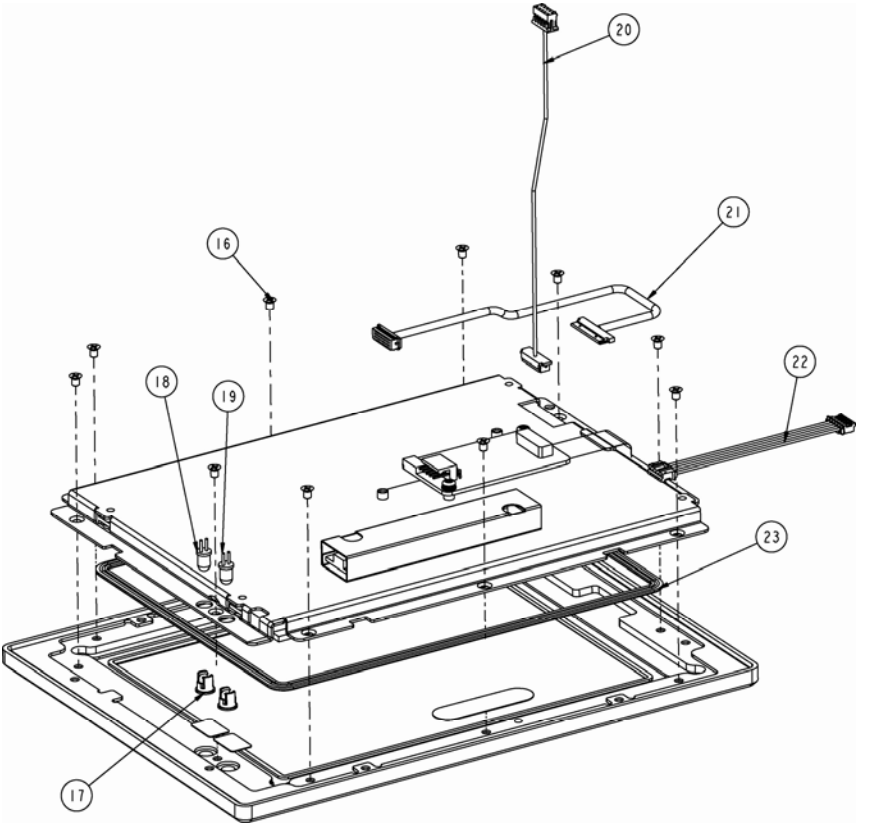
No.	Name	P/N No.	Torsion	Qt'y
11	Prox 7500	--	--	1
10	M3_L6_S_W	22-232-30060211	6~7kgf-cm	7

EXPLODED DIAGRAM FOR LCD ASSEMBLY



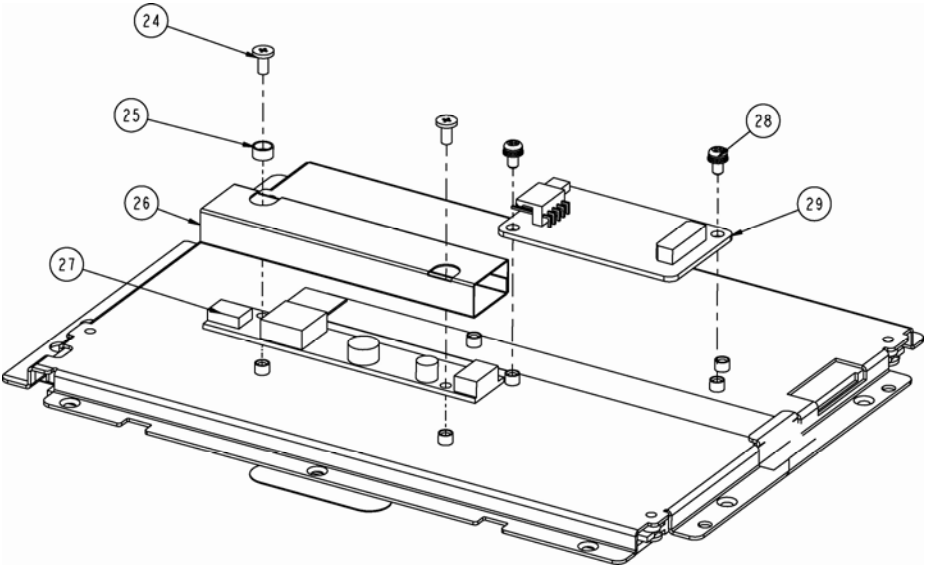
No.	Name	P/N No.	Torsion	Qt'y
15	7508 LCD ASSEMBLY	XX	--	1
14	7508 FANLES CASE	20-001-03061098	--	1
13	M3_L5_F_NYLOK	22-215-30005111	8~9kgf-cm	8
12	OUTSIDE RUBBER	30-013-01200031	--	1

EXPLODED DIAGRAM FOR SYSTEM CABLE



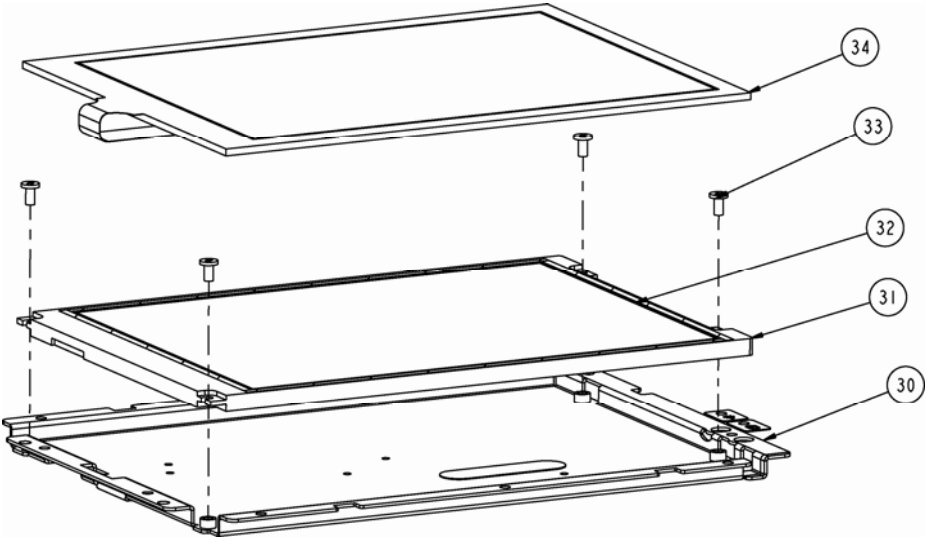
23	LCD_RUBBER	30-013-01300031		1
22	INVERTER CABLE	27-015-33203074	--	1
21	7500 LVDS CABLE	27-020-66207151	--	1
20	7508 ERO TOUCH CABLE	27-016-09804182	--	1
19	HDD LED CABLE	27-018-06906072	--	1
18	POWER LED CABLE	27-018-06906071	--	1
17	LED HOUSING	30-014-04100009	--	2
16	M3_L5_F_NYLOK	22-215-30005111	8~9kgf-cm	10
No.	Name	P/N No.	Torsion	Qt'y

EXPLODED DIAGRAM FOR SYSTEM INVERTER BOARD



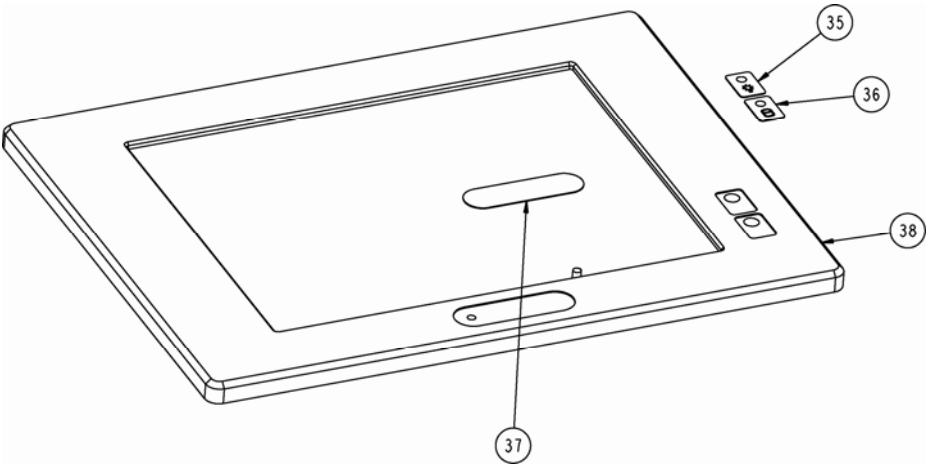
29	ERO TOUCH PCB	52-370-00736801	--	1
28	M3_L6_S_W	22-232-30060211	6~7kgf-cm	2
27	INVERTER PCB	52-101-73680000	--	1
26	INVERTER MYLAR	30-056-02100033	--	1
25	SCREWB SUPPORT	23-320-30320063	--	1
24	M3_L6_I	22-272-30006011	6~7kgf-cm	2
No.	Name	P/N No.	Torsion	Qt'y

EXPLODED DIAGRAM FOR TOUCH PANEL



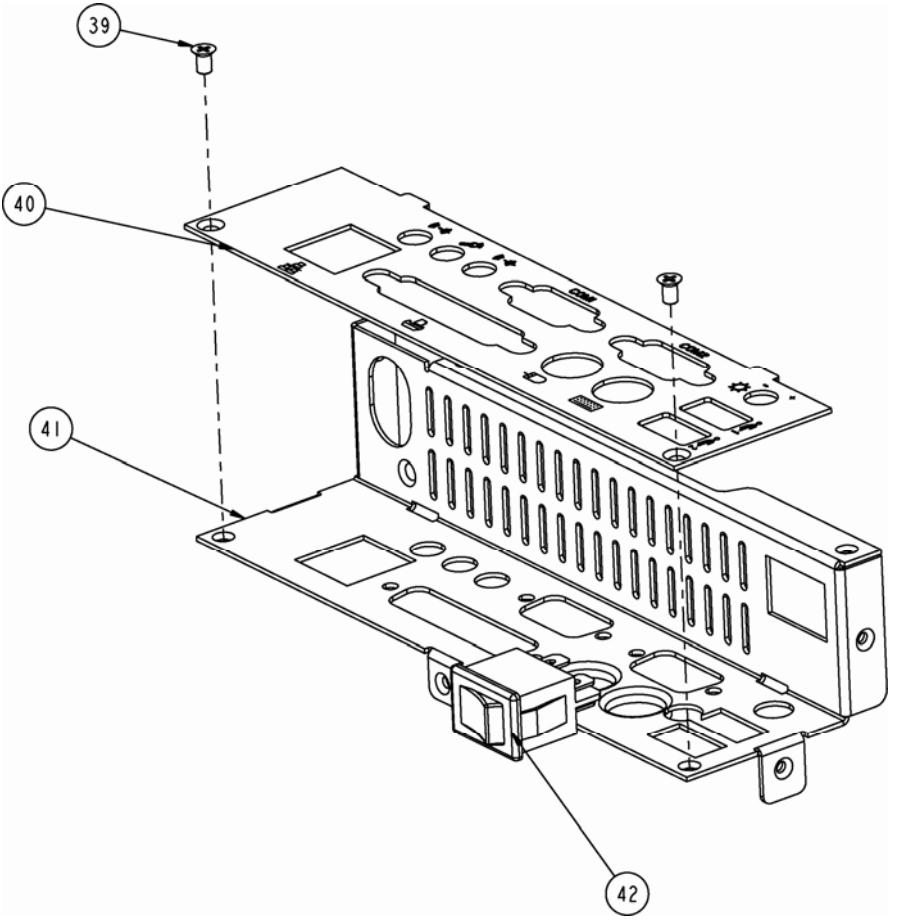
34	ERO TOUCH PANEL	52-351-00736814	--	1
33	M3_L6_1	22-272-30006011	6~7kgf-cm	4
32	LCD PORON SPONGE	30-013-15300044	--	4
31	AU_LCD_PANEL	52-351-00000002	--	1
30	ERO LCD HOLDER	20-029-03001069	--	1
No.	Name	P/N No.	Torsion	Qt'y

EXPLODED DIAGRAM FOR FRONT PANEL



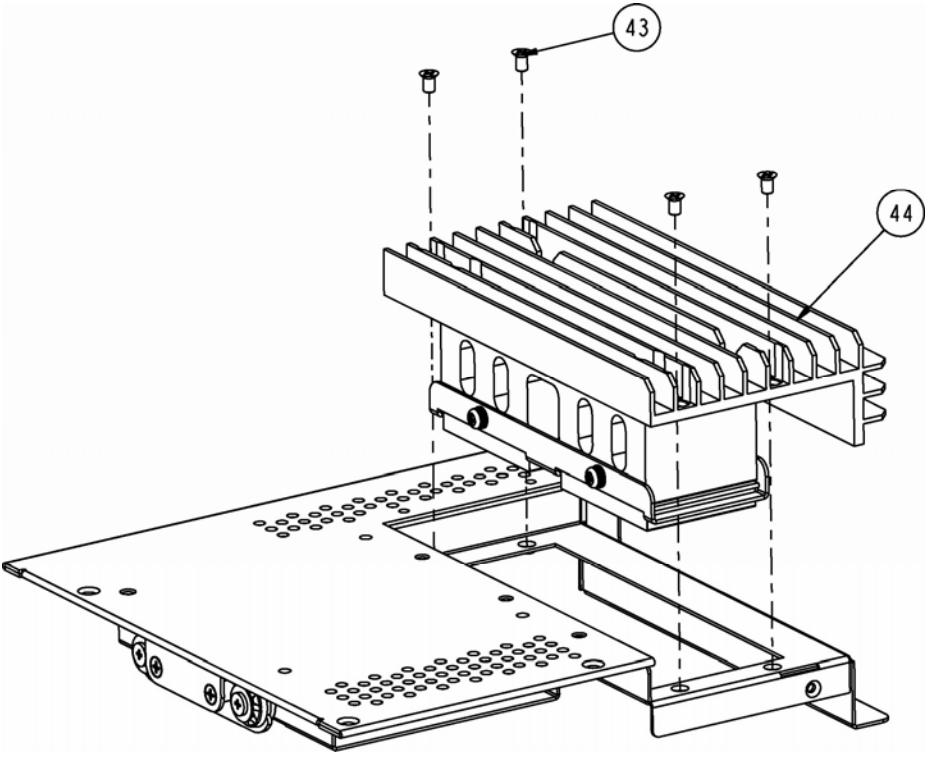
38	ELO_FRONT	20-003-01091069	--	4
37	LOGO LABEL	34-017-02104009	--	4
36	HDD LABEL	34-017-02101009	--	1
35	POWER LABEL	34-017-02103009	--	1
No.	Name	P/N No.	Torsion	Qt'y

EXPLODED DIAGRAM FOR SYSTEM I/O SIDE



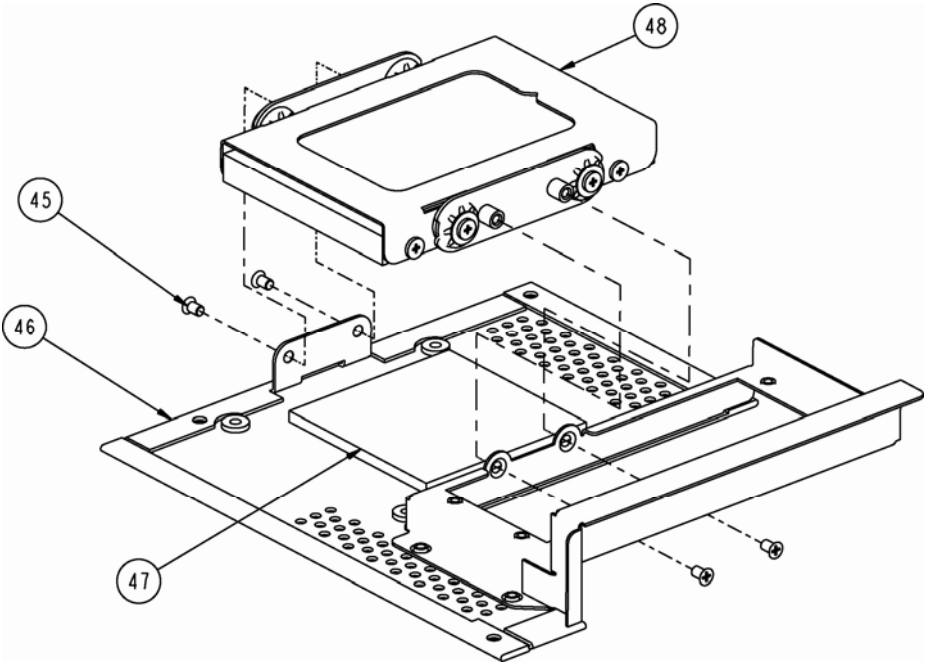
No.	Name	P/N No.	Torsion	Qt'y
42	SWITCH CABLE	27-019-03102073	-------	1
41	I_O_SIDE	20-003-03002031	-------	1
40	I_O_PANEL	20-003-03001031	-------	1
39	M3_L5_F_NYLOK	22-215-30005111	8~9kgf-cm	2

EXPLODED DIAGRAM FOR HEATSINK



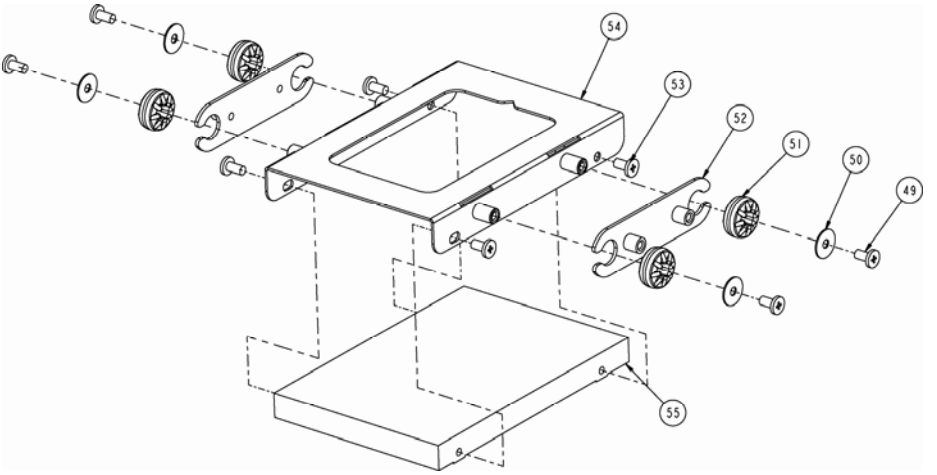
44	7508 HEATSINK	XX	--	1
43	M3_L5_F_NYLOK	22-215-30005111	8~9kgf-cm	4
No.	Name	P/N No.	Torsion	Qt'y

EXPLODED DIAGRAM FOR HARD DISK DRIVE



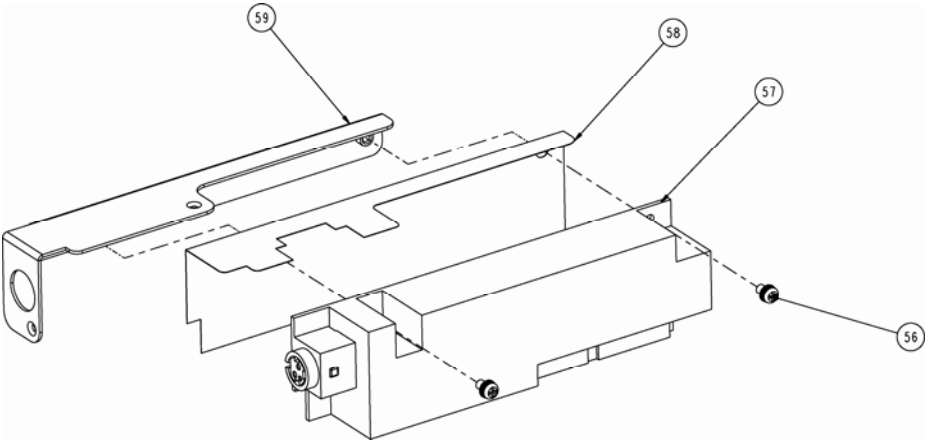
48	HDD ASSEMBLY	XX	--	1
47	Thermal Pad	21-006-06060001	--	1
46	7508 FANLESS BACK COVER	20-004-03061097	--	1
45	M3_L5_F_NYLOK	22-215-30005111	8~9kgf-cm	4
No.	Name	P/N No.	Torsion	Qt'y

EXPLODED DIAGRAM FOR HARD DISK DRIVE HOLDER



No.	Name	P/N No.	Torsion	Qt'y
55	HDD	--	--	1
54	HDD-BASE-HOLDER2	20-029-03002031	--	1
53	M3_L6	22-272-30006011	8~9kgf-cm	4
52	HDD HOLDER2	20-029-03003031	--	2
51	HDD RUBBER	30-013-01100031	--	4
50	Ø3 WASHER	23-312-30080101	--	4
49	M3_L6	22-272-30006011	8~9kgf-cm	4

EXPLODED DIAGRAM FOR POWER HOLDER



55	HDD	--	--	1
54	HDD-BASE-HOLDER2	20-029-03002031	--	1
53	M3_L6	22-272-30006011	8~9kgf-cm	4
52	HDD HOLDER2	20-029-03003031	--	2
51	HDD RUBBER	30-013-01100031	--	4
50	Ø3 WASHER	23-312-30080101	--	4
49	M3_L6	22-272-30006011	8~9kgf-cm	4
No.	Name	P/N No.	Torsion	Qt'y

TECHNICAL SUMMARY

APPENDIX

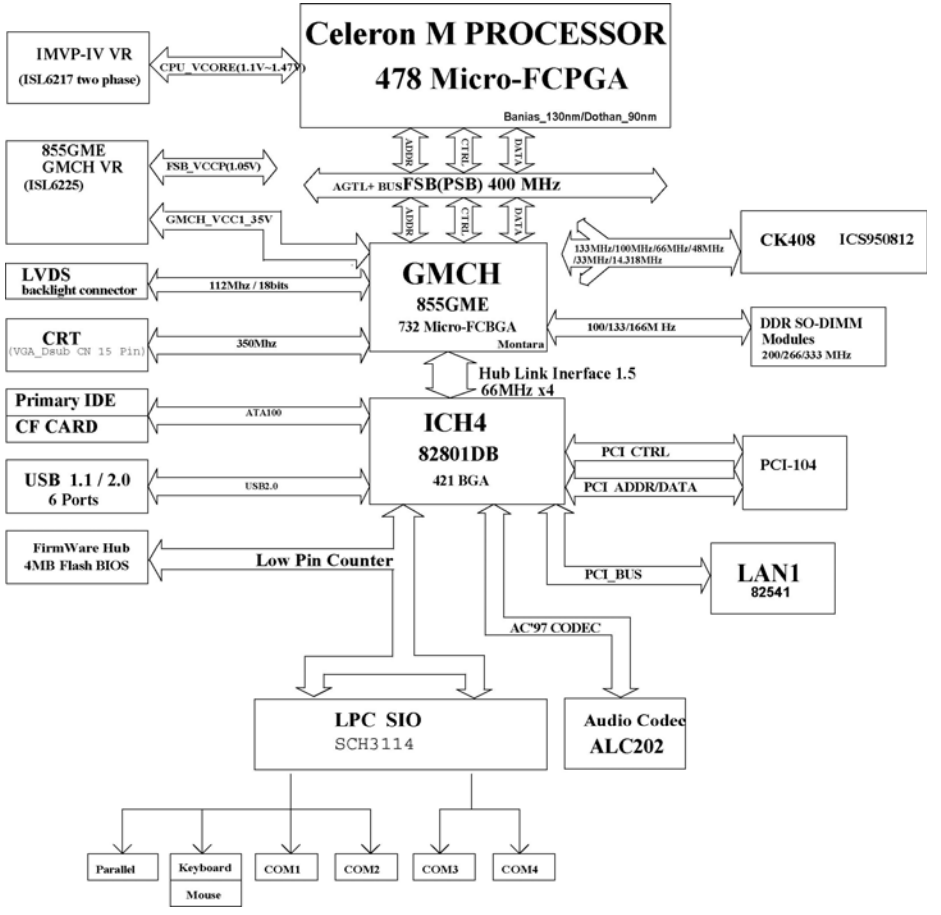
B

This section introduce you the maps concisely.

Sections include:

- Block Diagram
- Interrupt Map
- RTC (Standard) RAM Bank
- Timer & DMA Channels Map
- I / O & Memory Map

BLOCK DIAGRAM



INTERRUPT MAP

IRQ	ASSIGNMENT
0	System TIMER interrupt from TIMER-0
1	Keyboard output buffer full
2	Cascade for IRQ 8-15
3	Serial port 2
4	Serial port 1
5	Available
6	Floppy Disk adapter
7	Parallel port 1
8	RTC clock
9	ACPI-Compliant System
10	Serial port 3
11	Serial port 4
12	PS/2 Mouse
13	Math coprocessor
14	Hard Disk adapter
15	Hard Disk adapter

RTC (STANDARD) RAM BANK

CODE	ASSIGNMENT
00h	Seconds
01h	Second alarm
02h	Minutes
03h	Minutes alarm
04h	Hours
05h	Hours alarm
06h	Day of week
07h	Day of month
08h	Month
09h	Year
0Ah	Status register A
0Bh	Status register B
0Ch	Status register C
0Dh	Status register D
0Eh-7Fh	114 Bytes of User RAM

TIMER & DMA CHANNELS MAP

Timer Channel Map :

Timer Channel	Assignment
0	System timer interrupt
1	DRAM Refresh request
2	Speaker tone generator

DMA Channel Map :

DMA Channel	Assignment
0	Available
1	Available
2	Floppy Disk adapter
3	Available
4	Cascade
5	Available
6	Available
7	Available

I/O & MEMORY MAP

Fixed I/O Ranges Decoded by ICH2 :

I/O Address	Read Target	Write Target	Internal Unit
00h-08h	DMA Controller	DMA Controller	DMA
09h-0Eh	Reserved	DMA Controller	DMA
0Fh	DMA Controller	DMA Controller	DMA
10h-18h	DMA Controller	DMA Controller	DMA
19h-1Eh	Reserved	DMA Controller	DMA
1Fh	DMA Controller	DMA Controller	DMA
20h-21h	Interrupt Controller	Interrupt Controller	Interrupt
24h-25h	Interrupt Controller	Interrupt Controller	Interrupt
28h-29h	Interrupt Controller	Interrupt Controller	Interrupt
2Ch-2Dh	Interrupt Controller	Interrupt Controller	Interrupt
2Eh-2Fh	LPC SIO	LPC SIO	Forwarder to LPC
30h-31h	Interrupt Controller	Interrupt Controller	Interrupt
34h-35h	Interrupt Controller	Interrupt Controller	Interrupt
38h-39h	Interrupt Controller	Interrupt Controller	Interrupt
3Ch-3Dh	Interrupt Controller	Interrupt Controller	Interrupt
40h-42h	Timer/Counter	Timer/Counter	PIT (8254)
43h	Reserved	Timer/Counter	PIT
4E-4F	LPC SIO	LPC SIO	Forwarder to LPC
50h-52h	Timer/Counter	Timer/Counter	PIT
53h	Reserved	Timer/Counter	PIT
60h	Microcontroller	Microcontroller	Forwarder to LPC
61h	NMI Controller	NMI Controller	Processor I/F
62h	Microcontroller	Microcontroller	Forwarder to LPC
63h	NMI Controller	NMI Controller	Processor I/F
64h	Microcontroller	Microcontroller	Forwarder to LPC
65h	NMI Controller	NMI Controller	Processor I/F
66h	Microcontroller	Microcontroller	Forwarder to LPC
67h	NMI Controller	NMI Controller	Processor I/F
70h	Reserved[5]	NMI & RTC controller	RTC
71h	RTC Controller	RTC Controller	RTC
72h	RTC Controller	NMI & RTC controller	RTC
73h	RTC Controller	RTC Controller	RTC
74h	RTC Controller	NMI & RTC controller	RTC
75h	RTC Controller	RTC Controller	RTC
76h	RTC Controller	NMI & RTC controller	RTC
77h	RTC Controller	RTC Controller	RTC

I/O Address	Read Target	Write Target	Internal Unit
80h	DMA Controller	DMA controller & LPC/PCI	DMA
81h-83h	DMA Controller	DMA Controller	DMA
84h-86h	DMA Controller	DMA Controller & LPC or PCI	DMA
87h	DMA Controller	DMA Controller	DMA
88h	DMA Controller	DMA Controller & LPC or PCI	DMA
89h-8Bh	DMA Controller	DMA Controller	DMA
8Ch-8Eh	DMA Controller	DMA Controller & LPC or PCI	DMA
08Fh	DMA Controller	DMA Controller	DMA
90h-91h	DMA Controller	DMA Controller	DMA
92h	Reset Generator	Reset Generator	Processor I/F
93h-9Fh	DMA Controller	DMA Controller	DMA
A0h-A1h	Interrupt Controller	Interrupt Controller	Interrupt
A4h-A5h	Interrupt Controller	Interrupt Controller	Interrupt
A8h-A9h	Interrupt Controller	Interrupt Controller	Interrupt
ACh-ADh	Interrupt Controller	Interrupt Controller	Interrupt
B0h-B1h	Interrupt Controller	Interrupt Controller	Interrupt
B2h-B3h	Power Management	Power Management	Power Management
B4h-B5h	Interrupt Controller	Interrupt Controller	Interrupt
B8h-B9h	Interrupt Controller	Interrupt Controller	Interrupt
BCh-BDh	Interrupt Controller	Interrupt Controller	Interrupt
C0h-D1h	DMA Controller	DMA Controller	DMA
D2h-DDh	Reserved	DMA Controller	DMA
DEh-DFh	DMA Controller	DMA Controller	DMA
F0h	See Note 3	FERR# /IGNNE#/ Interrupt Controller	Processor interface
170h-177h	IDE Controller[1]	IDE Controller[1]	Forwarded to IDE
1F0h-1F7h	IDE Controller[2]	IDE Controller[2]	Forwarded to IDE
376h	IDE Controller[1]	IDE Controller[1]	Forwarded to IDE
3F6h	IDE Controller[2]	IDE Controller[2]	Forwarded to IDE
4D0h-4D1h	Interrupt Controller	Interrupt Controller	Interrupt
CF9h	Reset Generator	Reset Generator	Processor interface

Notes:

1. Only if IDE Standard I/O space is enabled for Primary Drive. Otherwise, the target is PCI.
2. Only if IDE Standard I/O space is enabled for Secondary Drive. Otherwise, the target is PCI.
3. If POS_DEC_EN bit is enabled, reads from F0h will not be decoded by the ICH2. If POS_DEC_EN is not enabled, reads from F0h will forward to LPC.

Memory Decode Ranges From Processor Perspective :

Memory Range	Target	Dependency/Comments
0000 0000h-000D FFFFh 0010 0000-TOM (Top of Memory)	Main Memory	TOM registers in Host Controller
000E 0000h-000F FFFFh	FWH	Bit 7 in FWH Decode Enable Register is set
FEC0 0000h-FEC0 0100h	I/O APIC inside ICH2	
FFC0 0000h-FFC7 FFFFh FF80 0000h-FF87 FFFFh	FWH	Bit 0 in FWH Decode Enable Register
FFC8 0000h-FFCF FFFFh FF88 0000h-FF8F FFFFh	FWH	Bit 1 in FWH Decode Enable Register
FFD0 0000h-FFD7 FFFFh FF90 0000h-FF97 FFFFh	FWH	Bit 2 in FWH Decode Enable Register is set
FFD8 0000h-FFDF FFFFh FF98 0000h-FF9F FFFFh	FWH	Bit 3 in FWH Decode Enable Register is set
FFE0 0000h-FFE7 FFFFh FFA0 0000h-FFA7 FFFFh	FWH	Bit 4 in FWH Decode Enable Register is set
FFE8 0000h-FFEF FFFFh FFA8 0000h-FFAF FFFFh	FWH	Bit 5 in FWH Decode Enable Register is set
FFF0 0000h-FFF7 FFFFh FFB0 0000h-FFB7 FFFFh	FWH	Bit 6 in FWH Decode Enable Register is set
FFF8 0000h-FFFF FFFFh FFB8 0000h-FFBF FFFFh	FWH	Always Enabled. The top two 64K blocks of this range can be swapped as described in Section 6.4.1.
FF70 0000h-FF7F FFFFh FF30 0000h-FF3F FFFFh	FWH	Bit 3 in FWH Decode Enable 2 Register is set
FF60 0000h-FF6F FFFFh FF20 0000h-FF2F FFFFh	FWH	Bit 2 in FWH Decode Enable 2 Register is set
FF50 0000h-FF5F FFFFh FF10 0000h-FF1F FFFFh	FWH	Bit 1 in FWH Decode Enable 2 Register is set
FF40 0000h-FF4F FFFFh FF00 0000h-FF0F FFFFh	FWH	Bit 0 in FWH Decode Enable 2 Register is set
Anywhere in 4GB range	D110 LAN Controller	Enable via BAR in Device 29:Function 0 (D110 LAN Controller)
All Other	PCI	None